Volume CXXIII. New Series. No. 18.

THE AMERICAN FARMER

OLDEST AGRICULTURAL PAPER IN AMERICA: ESTABLISHED 1819 PUBLISHED ON THE 1ST AND 15TH OF EACH MONTH.

CONTENTS.

Sept. 15, 1892.

SKETCH OF HON. A. C. SHINN.
THE SUGAR BEET: Walter Maxwell.
PROGRESSIVE AGRICULTURE—Alkaline Fermentation of Milk—Alkaline Curdling of Milk—Butyric Acid Fermentation—Bitter Milk—Blue Milk—Alcoholic Fermentation in Milk: The Editor.
NANCY ANKS.
GROWING FRUIT: W. B. Sands.
THE COTTON CROP.
NEW ZEALAND WHEAT CULTURE: J. N. Isaacsen.
GREEN LION PAVEMENT—A Story.
EDITORIALS: By the Editor.
HOUSEHOLD.
SHEEP AND WOOL.
THE APIARY.
THE DAIRY.
THE GARDEN.
THE ORCHARD.
STOCK.
POULTRY.
TEMPERATURE AND RAINFALL CHARTS.
THE MARKETS.
THE FENCE-CORNER.

American Farmer Co.
1729 New York Ave.
Washington D. C.

FOR SALE,
WANTS, EXCHANGES, ETC.

THE AMERICAN FARMER wants to become the medium of free communication of farmers with one another, and by which they can state their wants and have them supplied, the same as city people do in the daily papers. We have therefore established this column for the express use of subscribers to the paper. No others will be allowed access to it. The rates for advertising in it will be merely nominal—one cent a word each insertion. No "wants," "exchange," "for sale," or similar notices will be inserted more than twice. If desired oftener, it must go into the regular advertising columns at the usual rates. All our readers who want situations, or to employ help, or to exchange farming implements, stock, seeds, etc., are invited to use the column freely.

☞ In replying to these advertisements, please mention that they were seen in THE AMERICAN FARMER, of Washington, D. C.

TERMS: One cent a word each insertion. No notice to be inserted more than twice. No notice accepted at these rates except from subscribers to the paper.

FOR SALE—One No. 2 Dederick hay press; one No. 2 Zimmerman evaporator; one incubator, 100 eggs. H. G. WILLIAMS, Greenbush, N. Y., half a mile from Clinton Heights Hotel, on the Ridge road.

CLEM—A. B. Clem wishes to know the whereabouts of his sister, Sally, aged 14 years, who disappeared from Mrs. Hutton's house in December. Address, care of T. J. Featherston, New Lewisville, Ark.

HILBURN—Walter Lambright, of McCall Creek, Miss., wants to know the address of Miss Carrie Hilburn. When last heard from was at Baltimore, Md., in 1887.

SMITH—A. B. Smith, Self, Tex., wants to know the whereabouts of A. B. Smith. Last heard from at Chambersville, Ark., about 16 years ago; also Jack Smith. Last heard from at Laundering Springs, Ga.

MERRETTE—Minnie Hodge, Westtown, P. O., Ark., wants information of Andrew Merrette, who has not been heard of for three years.

WILSON—John Clark, Georgetown, La., wants to know the whereabouts of William Wilson and his mother. Last heard from about 1869 or 1870, in the state of Arkansas. There were two children, William Wilson and Elizabeth Wilson, who married Charley Clark in Arkansas and moved to Texas.

HELMS—S. K. Keitah, Osceola, S. C., wants to know the whereabouts of his uncle, Coleman Helms, or children. Last heard from in Tennessee in 1868 or 1870.

NOLAN—H. T. Keith, of Elmore, Ind. Ter., wants information of the Nolan family, of whom he knows nuarrie Tessel Fielder, of Yallapoosa, Ala., and was the grandmother of his wife.

HENDRIX—D. W. Hendrix, of Health Springs, S. C., wants to know the whereabouts of John R. Hendrix, who left this country in November, 1859, or 1860. Last heard from at Blocks, S. C.

THOMPSON—J. M. Estes, Holly Springs, Miss., wants information concerning A. R. Thompson, a Scotchman, who left this place about two years ago.

WANTED—On stock farm—Married man, who thoroughly understands the care of stallions, broodmares, and colts, and had experience in breaking and handling. Must be strictly temperate and reliable. A good place for the right man. Address, stating experience and references, LAWSON STOCK FARM, Port Chester, N. Y.

FARM MANAGERS—We have several first-rate men at present whom we can recommend as farm managers—men of experience and ability, well versed in agricultural matters and the breeding and rearing of stock. Correspondence invited. PETER HENDERSON & CO., 35 and 37 Cortlandt street, New York.

POLLOCK OR POLLUCK—Leon A. Bernard, Orange, Tex., wants information concerning Sam Pollock, who lived in Mississippi and Tennessee at the beginning of the war.

WANTED—300 store sheep in exchange for choice Holstein-Friesian cattle, at low prices. C. F. COREY, Pennellville, N. Y.

WANTED—Gardener (married, without children) must be well recommended. Address, P. O. BOX 2080, New York City.

WANTED—A farmer and wife on gentleman's place. Must understand both fruit growing and gardening, care of horses and cattle, use and application of agricultural machinery, and raising of crops. Wife must be familiar with butter making. First-class references required as to character and ability. Address, A. B. E., Box 119, Warwick, Orange County, N. Y.

WANTED—Situation as manager; applicant thoroughly understands farming in all its branches; also registered stock; capable of producing first-class butter; large experience in gardening and greenhouse work, etc. Landscape engineer and garden architect, with many years' successful experience as general manager of large country estates and stock farms. First-class service offered by a man of culture, education, and stability. Thoroughly reliable; highest references. Address, AGRICULTURIST, care Country Gentleman.

TORRENCE—E. J. Torrence, of Hillsboro, Ark., wants to know the whereabouts of his brother or any of the family of E. J. Torrence. When last heard of were in Texas.

FOR SALE—Two Guernsey bull calves, sired by Duke of Kilcrelle, No. 2000, imported. Address, C. H. EDDY, Saratoga Springs, N. Y.

ZENN, GILLILAND, AND MCKAY—George E. Gailing, San Augustine, Tex., wants information concerning the heirs of Charles R. Zenn, Isaiah Gilliland, and James McKay, who were in Texas in 1835 and 1836.

SAYERS—W. H. Butts, Sutledge, Ga., wishes information concerning any of the family of John Sayers. Sayers was born in Green County, Ga.; married Miss Fanciens Price, daughter of William Price; moved from Green County to Walker County, Ga., and from Walker, Ga., probably to north Alabama, where he is reported to have died about 30 years ago. Any information concerning his family will be gladly received.

WARREN—J. H. Hudson, of Alma, Ark., wants to know the whereabouts of Elijah Warren. Was last heard from in Kaufman County, Tex.

FOR SALE—Canadian Hunter, bay gelding, 8 head, 6 years, 16.1 hands, sound, straight; beautiful gait; grand jumper, up to any hight. For beauty and quality he cannot be beaten. MRS. E. M. JONES, Brockville, Ontario, Can.

PERCHERON MARE—Registered; brown, 6 years old, large, with black filly by side, and served again. Will sell separate at moderate price. EUGENE HAM, Verdonk, Duchess County, N. Y.

FOR SALE—Signaller, Lambert; yearling bull out of a deep milking St. Lambert cow by my 30-bred signal bull, whose dam is a daughter of Gazella 8th, 701 pounds 6 ounces, and whose sire is son of Signoretta (daughter of Gazella 5d), 600 pounds 8 ounces on second calf. Price, $100. G. W. FARLEE, Cranehill, N. J.

2 GRAND butter-bred young Jersey bulls, A. J. C. C., six and eight months old, solid colors, rich skin, handsomely marked; dams, g. dams and g. g. dams 14 to 20 pounds butter per week, common feed. A bargain, $60 each. DR. CLOUD, Kennet Square, Pa.

4 JERSEYS (registered), $125; 6 Shropshire grade ewes, $20; Shropshire and Hampshire rams cheap. ENGLEWOOD, Castleton, N. Y.

WANTED—Three young Guernsey cows, good milkers, good pedigree. Apply with particulars, DEEP BOTTOM FARM, Oliver's Mills, Pa.

TO EXCHANGE—A choice young Mambrino Patchen mare, in foal to Stranger, colt by side by Simmons, also yearling filly by Wickliffe—all sound and individually good—for Jersey cows and heifers or Southern or Western real estate. ALEX. MCCLINTOCK & SON, Lexington, Ky.

SITUATION WANTED—By Oct. 1 as herdsman; not married; thoroughly understands the management of fine cattle; strictly temperate; first-class milker. A No. 1 references. Address, HERDSMAN, care Country Gentleman.

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It is warranted to be an accurate timekeeper and is well made and perfectly finished in every particular.

It is in polished nickel case. The alarm sounds loud enough to arouse every sleeper in the house at the hour it has been set.

The clock runs 30 hours after winding.

The dial is four inches in diameter.

We give this Clock free as a premium to any one of 4 subscribers, with only 10 cents additional money to help pay packing and transportation. For sale at $1.40, with 10 cents additional if sent it registered.

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Washington, D. C.

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FOR THE FARMER

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100 CENTER-FIRE SHELLS FREE.

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No such outfit was ever before offered in this country for the money.

This gun, shells and belt will be securely boxed and **sent by express**, the receiver to pay the charges, whether sent as a premium or purchased.

The gun market is on the upward turn. We reserve the right to raise the price within a month, if the market continues to advance.

Address THE AMERICAN FARMER CO.,
Washington, D. C.

THE AMERICAN FARMER.

Established 1819. WASHINGTON, D. C., SEPT. 15, 1892. Vol. LXXIII. New Series.—No. 18.

HON. A. C. SHINN.

A Practical Farmer and Member of the Kansas Board of Agriculture.

HON. A. C. SHINN, of Ottawa, Franklin Co., Kan., was born at Shinnston, Va. (now West Virginia), Oct. 12, 1842. His parents were John K. Shinn and Tabitha Shinn (*nee* Ogden), members of old Virginia families, Shinnston deriving its name from that of his ancestors. His parents removed with their family to Adams County, Ill., in 1848, where they resided until the Spring of 1849, when they located in Hancock County, Ill., where his mother still resides at the age of 77. His father, John K. Shinn, died on the old homestead, September, 1889, leaving a widow and nine living children. Two of his brothers are farmers and two are lawyers, one of them, C. W. Shinn, now being Judge of one of the districts in Kansas, and the other, T. O. Shinn, formerly occupied the same position.

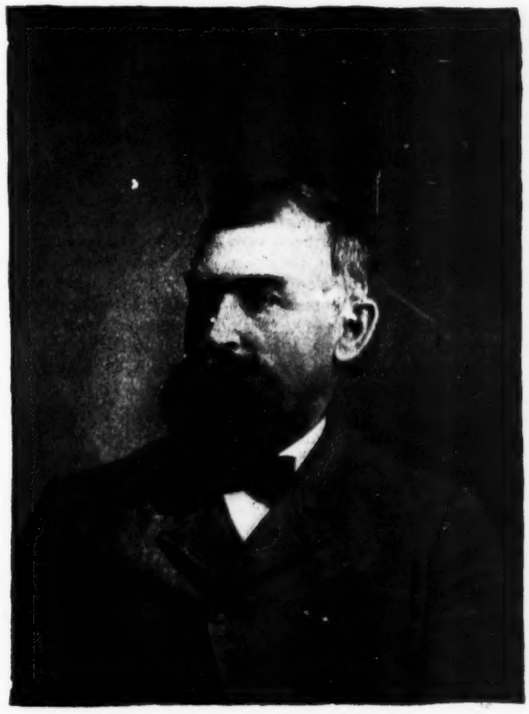
The subject of this sketch resided with his parents on the farm, attending the district school during the Winter months, and later the high school of the neighboring town of Warsaw until 1862, when in the month of August he enlisted as a private in Co. G, 12th Ill. Cav., then serving in the Army of the Potomac. He was taken prisoner in the cavalry fight near Dumfries, Va., in the early Winter of 1862, and was for a time confined in "Sky Parlor," near old Libby Prison; afterward paroled, and subsequently exchanged and rejoined his regiment in time to take part in the Spring campaign with Gen. Buford's cavalry corps, and participated in many skirmishes, cavalry fights, and the first and second days of the great battle of Gettysburg. He served with his regiment until after the close of the war and was mustered out a Sergeant of his company, by reason of General Orders, in June, 1865, and returned to his home in Hancock County, Ill.

While serving in the Army of the Potomac he gained experiences, and seeds of thought were planted that had a marked effect on his after life. One of his comrades had lived in Kansas, and it was his glowing description of eastern Kansas that first drew our subject's attention to that State. These comrades used to build "air castles" as to how they would, if they survived, at the close of the war go to Kansas and there make their home.

And again on the great question of "negro suffrage," while he was reared an abolitionist, a doctrine he fully embibed, he had the customary doubts as to whether they should have the right of suffrage or not, until one evening while traveling alone from Alexandria, Va., to the front to join his regiment, he came upon a brigade of colored troops on dress parade, all with their white gloves and new uniforms; they looked grand. As he had never before seen colored soldiers, this sight startled him and caused him to reflect. "Here is our colored brother performing the highest duty of a citizen, namely, fighting for his country, so this one act of his will carry with it all the lower rights and privileges to his race." Years afterward, when the question of striking the word "white" out of the constitution of Kansas came before the voters, he, remembering his army experience, was one of the few in his community who voted to extend the right of suffrage to the "colored citizen."

And it was by reading the Washington papers while in the Army of the Potomac telling of the immense National debt that was being created, that first drew his attention to the financial question. He knew that public debt meant taxation, and it was a comfort to him to know that we had the silver and gold in the mines of our own country with which to pay this debt, and it was a question often debated in his mind whether, if he lived to return to his home, he would go to the mines or return to his occupation as a farmer. It was his good fortune to return to the farm, and as the years passed by and his class began to see that they were falling back in the race of life—that here in this "free America" the farmers were losing the titles to their homes and becoming tenants instead of owners—he made a study of the cause or causes that were at the bottom of their failure.

It was in this study that the effect of the demonetization of silver, one of the metals that he had always relied upon to help pay our debts, became clear to him, and since then he has worked in season and out of season to draw the attention of the people of the United States to this the uppermost question now before the public for their decision. He sees that the silver mining interest is failing; but that the agricultural interest is failing in the same ratio. It is to the farming and producing interests that we must look for the strength to restore our silver dollar to its former place as the unit of value, because the agricultural and producing interests far outweighs both in number employed and in value of product the mining product. In one paper on this silver subject he used the following language, this was in 1889, and he now thinks it more probable than it was then: "With silver reduced to a 'token currency,' we may expect for years a gradual shrinking in prices, financial ruin to the great body of the people, repudiation and anarchy the culminating point, when the world can again start on the up grade."



HON. A. C. SHINN.

Mr. Shinn was married to "the girl he left behind him," Miss Frances E. Bride, only daughter of Samuel and Esther Bride, of Hancock County, Ill., October, 1865, and in February, 1866, with his young wife he traveled overland across the then dark and dangerous ground of Missouri, braving the dangers of the times and seasons, and came to Kansas, locating at his present home, about four miles northeast of Ottawa, where he now has a well-improved farm of about 500 acres as the result of his own and his family's industry and economy. He and his wife have been blessed with a family of five children, all living—three daughters and two sons.

In his youth and early manhood he was a Republican, but in 1872, being intensely individual in his theories of Government and believing that the most important questions growing out of the war had, in the main, been settled, he supported the Greeley ticket, and continued to act with the Democratic party until the

present popular movement of the agricultural masses was organized in 1889, when he became an active member of the Farmers' Mutual Benefit Association, and afterward of the Farmers' Alliance. Subsequently he helped to organize the People's party in Kansas, and was its candidate for Lieutenant-Governor in 1890.

He has been a close student of all matters apertaining to his occupation, and has served his County agricultural society two terms as Vice-President and two as President, and is now a member of the Kansas State Board of Agriculture. He has been an advocate of diversified farming for the great body of farmers, and has followed in that line himself, counting it legitimate farming to sell any surplus that can be produced on his farm from a dozen cucumbers to a span of horses, or from butter and eggs to a car of fat cattle. He was appointed by the Governor of his State as a delegate to the First National Silver Convention, at St. Louis; was a member of the Commercial Congress, at Kansas City, in 1891, and attended the Second National Silver Convention, at Washington, D. C., in 1892, as a delegate from the Kansas State Alliance, and is Vice-President for Kansas of the American Bi-metallic League.

His family for generations have been farmers and lived to a ripe age, his grandparents on both sides living to be from 75 to 85 years old. He and his family had the pleasure of attending in 1886 the golden wedding of both his parents and his wife's parents.

Effects of an Adder's Bite.

As cases of poisoning from the bite of venomous reptiles are happily rare in this country it may prove interesting to some of your readers if I lelate my experience on this matter.

About a month ago I caught two snakes at Bickleigh, near Plymouth, and while examining one it "bit" or rather struck me on the lower part of the right thumb. I immediately sucked the puncture (it could not be called a wound), which bled a little, and tried to make light of the matter. A livid patch soon formed around the point, and the hand and arm commenced to swell. In a quarter of an hour I was unable to hold anything and almost in a fainting condition. The first symptoms (apart from the swelling) was a peculiar taste and a sensation of swelling in the teeth, then the tongue commenced to swell and became so large that I could hardly move it, and my eyes seemed ready to start from their sockets.

In half an hour a terrible vomiting commenced, preceded by excruciating pains in the stomach and heart, and continued with the pains altogether for nine hours, every drop of liquid being ejected almost as soon as swallowed; there was also violent purging and complete suppression of urine.

There was practically no pain in the arm. Altogether the painful symptoms lasted for about nine hours.

I did not lose consciousness at any time. The arm continued to swell for two days, and then it was nearly as large as my leg. After this the swelling subsided, but the arm did not return to its normal size until 12 days after the accident. After the swelling had gone, I suffered very much from rheumatic pains, and, in fact, do so now, and the digestion was also very much impaired. The viper is a male, a little more than two feet long and about an inch in diameter at the largest point. Color, a dull, yellowish brown on the upper side, with a zigzag black line running down the whole length. On the under side it is nearly black, except at the head, where it is pale yellow. I have kept the reptile now for nearly five weeks, and although well supplied with small frogs, etc., it has not eaten anything and seems as lively as ever.—*London Nature.*

Hemp Culture in the Bahamas.

The cultivation of the sisal plant for the production of fiber has now become an established industry of the Bahamas, and bids fair to become a source of much profit and prosperity. The people are greatly interested in the new business, and are embarking in it to the extent of their means. Foreign capitalists have seen the money in it and have bought up large tracts of land, and are setting out plantations in every direction. Beneficial results have already arisen from the introduction of foreign capital and the employment given to labor. Unless all signs fail and all reasonable calculations miscarry, the Bahamas are now entering upon a course of prosperity that will place them among Great Britain's most valuable possessions by means of this industry.

Are the Seasons Getting Worse?

There is a class of farmers who are continually saying the seasons are not like they used to be; that it can be seen in the failing crops. They are badly mistaken. The farms are growing poorer, less reliable, and more dependent upon favorable and timely rains; the drouth, the bugs, the worms get away with starved crops on starved lands. It will be noticed such complaining farmers do not haul out barnyard manure or seek to improve their farms by and other process. By and by the seasons will get so bad that these farmers will starve clear out and their lands will pass into hands that shall find a way to raise good crops in bad and drouthy seasons. You see it is the men; the farms that are getting worse and not the seasons.

In England one person in every 39 is a pauper; in America the rate is one person in every 680.

There may be many warm places in the United States, but how many people know that Death Valley, in California, is the hottest region on earth.

Farm Economies—Getting Things Handy.

Time is money with a farmer as much as with a lawyer, a doctor, a merchant, or a manufacturer. Let us look around among the farmers and take some notes. It is not necessary to go into the house, for nine times out of ten the interior arrangement is like the outside.

The intention is to notice the lack of economical arrangement on the farm, and the house yard is a good place to start from. The water comes from a spring 100 yards away from the house, and somebody has to carry in a bucket—maybe a leaky one at that—all the water used for drinking, cooking, washing, and scrubbing. Just how many trips are made every day, how far the poor girl has to walk a year, the cost of shoe leather, and the anguish of soul, can be estimated when there is more time than we have now. Certain it is that hundreds of miles are gone over every year for this water.

The wood for cooking and keeping the family comfortable in Winter is—well we will suppose—hauled up to within 100 feet of the kitchen. Every stick of it has to be carried into the house by somebody. It is fortunate if the wood is placed under cover and properly prepared before it is wanted. Here is from 15 to 40 cords of wood to be carried by hand from 100 to 250 feet. This is a fearful job, and many more miles of travel.

The item of chores, feeding, and milking come in for some calculations. The barn probably includes the horse stables and hay, but not always. The cribs are often on the opposite side of the barnyard, or in another yard altogether. The cow stables are separated from the barn and from the corncrib and from the watering trough, requiring all the feed to be carried to them. The hogs are kept in a lot entirely separated from other stock and maybe removed from the corncrib 200 yards.

One would conclude that some pains had been taken to keep but one thing in a place, and the farther apart the better. No calculation had been made of the extra steps, the loss of time in carrying water, wood, feed, and other things that might have been brought closer togetl er, made more handy, just as well as not.

Let us start out from the house again. It will be a wonder if the kitchen or cookhouse, as some call it, is not detached from the dwelling-house by from 20 to 50 feet. This would require many trips a day, Winter and Summer, rain or shine, year in and year out, sick or well. The cellar is probably under the main house, or in the back yard; rarely under the kitchen.

The farm gates, if fortunately they are not bars, are rarely placed so as to save steps. They open and shut with difficulty on account of the posts getting out of line.

There are plenty of such badly-arranged farms. The farmers do not think of the drudgery, unnecessary work, they do and require their wives and children to do. They are used to it; they were raised that way. If they will figure out the distance they walk to get things together, there would be an overhauling, a better arrangement of houses, stables, yards, and gates that would make home life on the farm more satisfactory; that would save time and money that is now worse than wasted.

An incident read many years ago is so pointed that it must be given. A pushing farmer hired a bright, spirited boy to work a year on the farm. No complaints were made at any time by either party. The contract was in writing "to work on the farm." It was the practice to water the teams at a creek a quarter of a mile from the house. At the end of the year the boy brought in a bill for "extra traveling" of over 1,000 miles. The farmer was astonished, and listened with wonder to the itemized account for the 365 days. He had never thought of this unnecessary, formidable, hardship before. It is said the boy was paid both wages and for extra traveling; he was hired for another year, and set to digging a well in the most convenient place on the farm.

When and How to Kill Bush and Briars.

To farmers who live in timbered regions this question is an interesting problem. There is a theory with some, who ought to know, that there is day, with the moon in right quarter and the sign of Zodiac in the right place, that a tree or shrub should be cut to kill it root and branch. All this sounds well enough to them, but years of experience has failed to verify such theories. A sapling may be cut in the Winter that will never sprout, and it may be cut in the light of the moon in August, when the sign is in the heart, and sprouts will appear abundantly. We cut brush every day in the year, and some will die no matter when they were cut, and some will not die. If sprouting is done twice a year, say June and August, for two or three years, very few sprouts will appear the next year unless it be sassafras or post oak runners.

The whole secret of killing, other than grubbing, seems to be in sap poisoning. The sap must sour, which kills the roots. Hence some practice cutting the stumps a foot or more in hight. An experiment of this kind showed a decided gain, since the stumps rotted out in four years' time from cutting.

The killing of briars, especially dewberry, baffled all skill and industry. Even the sheep could not wholly conquer them. At one time it seemed they were gone, but when the land was put down to meadow they came up as strong and vigorous as ever. Sassafras has been alluded to; nobody ever killed one by cutting it off at the ground. The same is true of persimmon. They need very different treatment. When cut a foot or two from the ground sap poisoning is more possible and effectual.

A single plant of turkey corn bears 3,000 seeds; the sunflower, 4,000; the poppy, 32,000, and tobacco, 70,320.

THE SUGAR BEET.

The Condition of the Crop and the Rules of the Hadmersleben Sugar Factory in Germany.

BY WALTER MAXWELL, U. S. DEPARTMENT OF AGRICULTURE.

THE GREATER part of the month of August was extremely dry in the beet districts of Nebraska. The temperature did not rise so high as in the latter half of July; nevertheless it was hot, and accompanied by strong, warm winds, chiefly from the south, which drew the moisture from the earth at a great rate. Where it has been attempted to plow oat stubbles, in preparation for rye and Winter wheat, the dryness of the soil, to a depth of nine inches, has made such an operation almost impracticable.

The heat and dryness have had the effect upon the beet crop of forcing it to an early maturity. The sugar content in the latter part of August was unusually high, and the condition of the juices, in respect to purity, were equally advanced. There were beets containing 14 per cent. of sugar, with a purity of 80 per cent., showing that the crop could actually be handled by the factory at once. The early or advanced maturity of the crop, however, was caused at the expense of the weight of beets per acre. Owing to the absence of a sufficient fall of rain the beets are much smaller than they should have been.

During the last week fine rains have fallen, and although the early planted beets are too far advanced toward maturity to make any further very extensive growth, the late planted beets will now grow rapidly, and the growth will continue well into October, providing the Autumn frosts do not set in abnormally early.

A week ago we met Mr. James G. Oxnard, Vice-President of the Oxnard Beet Sugar Company, Grand Island. Mr. Oxnard had just left the sugar factory at Chino, Cal., where he also takes an active part in the directorate. He said that the Chino factory was almost half through the season. On the sand soils the yield per acre was light; but on the deep loams, or the true beet soils, the weight per acre frequently exceeded 20 tons; and the sugar content was very satisfactory.

The Nebraska factories are still preparing to commence operations about, or a little before, Sept. 15. The advanced maturity of the crop will make an even earlier date possible with the beets that were planted very early.

In a previous contribution we spoke of an insect visitation which occurred in the latter part of July, and which somewhat retarded the growth of such fields of beets as were affected. In the third week of August, or one month from the date of the first visitation, a second attack of the pest was experienced, and with a much greater virulence. We visited fields in the district of Grand Island where breadths embracing 20 and 30 acres were wholly divested of foliage. The caterpillars had eaten every appearance of green leaf, and were even devouring the strong stems in places.

It is possible that some portion of those fields will not recover from the damage, and should the leaves put forth again, and the weight per acre be made up by a later growth, the period of maturity will be delayed to a date less convenient to the factories. The breadth of crop, however, damaged by the insects is but a small part of the 5,000 acres which are being grown for the Grand Island and Norfolk factories. The Department of Agriculture, at its sugar beet station in Nebraska, has occupied itself with the insect visitation, and likewise the Professor of Entomology of the University of Nebraska, at Lincoln. Now that the visitation is over for this season the practical problem which is engaging the minds of the gentlemen interested is the determination of the mode in which the said insect Winters, and the adoption of a mode of cultivation of the land which will effectually expose it in its latent form to the rigors of the weather, and thus prevent its recurring vitality next year.

From Europe reports continue to be very moderate in their character. George Durean, Paris, says: "The weather has continued favorable for the development of the beet, but the irregularities already noticed have not disappeared, despite the alternation of heat and rain that we have enjoyed." From Germany we learn that the weather was dry and hot, and that these conditions had reached an alarming state. Fortunately, the conditions changed, and good rains and a moist atmosphere came to the rescue of the crop in east Germany. In Belgium the rains of early August had been good for the beets, and they are now making good progr ss. Holland, whose acreage is not large, promises the best of European countries. The dry season has suited the cultivation of the lowlands. The prospects in Russia have gone off very notably since June, and no improvement can bring the crop up to its early promise.

It will be of interest to give a brief table indicating the comparative size of the beets and the content or richness in sugar in the following countries:

		Weight of beets, grams.	Sugar, per cent.
Aug. 3.	Magdeburg (Germany)	203	11.6
Aug. 5.	Chapelle (France)	131	13.3
Aug. 20.	Grand Island (Nebraska)	200	13.8

We would, however, call attention to the fact that the European analyses are made according to a method of sampling which gives the precise condition of the crop; whilst it is not claimed for the data in the Grand Island example that they do more than approximate the state of matters. Nevertheless, after all allowance is made, the Nebraska crop makes a good showing. And the crop of this year, taking sufficient consideration of all the conditions of this season, more conclusively than any previous endeavors, indicates the position that the State may take as a sugar-producting region, when the farmers have gotten the knowledge in their hands which is indispensible to the real cultivation of the crop. It is slowly but surely coming to be understood that a corn grower must learn afresh in order to grow beets; and it is also being found out that a book knowledge of the theory of beet culture is more harmful than helpful without a foundation of practice in the work.

As throwing light on the systematic methods employed in Germany for the purpose of increasing the percentage of sugar in sugar beets, the following translation of the Hadmersleben Sugar Factory's instructions to beet farmers may be found of interest:

Section 1. Every stockholder is bound each year, on the 15th of September at latest, to deliver to the superintendents of the factory a specification of that area of ground on which he purposes to plant sugar beets for the stock company in the following year, in conformity with his obligation, according to the number of his shares. This specification must contain exact information as to the position, area, manured condition, and series of crops during the three preceding years. The beets must not be planted on moist, moor, or saltpeter land, or on land which, within the preceding years, has been devoted to clover, esparcet, or lucern. Fresh broken land (within the first five years) must not be devoted to beet culture. Further, the cultivation of sugar beets is forbidden in the first year after lying fallow, and also after oil-producing crops, pulse, all kinds of cabbage and similar vegetables, and all vegetables which did not come to maturity in the preceding year and for two years after cess-water has been used. The superintendents must give notice to each stockholder, by the 1st of November at latest, as to whether or not the ground offered has been accepted; and, if not accepted, the reasons for the rejection—which must be based upon the above requirements—are to be given. The stockholder in question, instead of the rejected land, has to offer other acceptable land, until the required amount has been supplied.

Sec. 2. The superintendents and inspectors examine the condition and extent of land offered for beet culture and the specifications given by the stockholders, and oversee the planting, cultivation, and delivery of the beets. They have the power to satisfy themselves in every practical way, and even to remeasure the land, if they see fit. Sould it transpire that a stockholder has given inaccurate information, he will be obliged to pay the costs incurred in proving the deception.

Sec. 3. Fertilizing with iron shavings, salt, and potassic salt is forbidden; but it is permitted to manure belt land with at most 120 centners of animal dung per morgen (acre), in case it is plowed under before December 31, or later, if the manure was applied at the proper time. In artificial manures the ratio of nitrogen to phosphoric acid in solution must be one to one. The use of not more than two centners of Chile saltpeter per morgen is permitted. It is forbidden to use more than 40 (German) pounds of nitrogen per morgen. Where stable manure is used, 12 per cent. extra of phosphoric acid in solution is to be added. Placing manure on the plants is forbidden. Every stockholder is further bound to plant his beets before May 15, and, after that date, can do so only in exceptional cases and with the consent of the superintendents. A second planting is permitted until June 1, but notice of the same must be given to the superintendents. He is further bound to thin out the beets at the right time, to hoe at least three times, and each time to hill; he must, moreover, devote the greatest possible industry to the cultivation of the beets. On an average, the beets must be drilled not more than 14 inches apart and the plants left at intervals of not more than 12 inches. Before the harvest the plants must be robbed of no part of their leaves, and must be delivered at the factory clear, as far as possible, of leaves and earth and in such condition as to fill every requirement for the rational winning of sugar.

Sec. 4. The necessary beet seed are supplied by the factory to every stockholder—36 kilograms per hectare, or 18 German pounds (half a kilogram) per morgen—free of charge. It is positively forbidden to use other seed. Every stockholder is, however, free, if he wishes to drill more than 36 kilograms per hectare, and to buy at cost price from the factory the desired extra quantity. The request must, however, be made to the superintendents early enough to allow them time to purchase the seed. This regulation applies, also, to where, for any cause, a second planting is necessary; and, in such case, also, the stockholder must pay cost price for the seed.

Sec. 5. The superintendents determine, after making an estimate of the expected crop, what quantity of beets for the months of September and October each separate stockholder must deliver daily and weekly to the factory. Every stockholder is bound, by the 31st of October, with the greatest possible accuracy, to report to the directors (superintendents) the anticipated result of his beet crop. On the basis of this result the superintendents issue a second notice as to the daily and weekly quantity of beets to be delivered by each stockholder. Every stockholder is bound to comply with these requirements of the superintendents. The superintendents, however, may, in exceptional cases, make such allowances as the circumstances seem to demand.

Sec. 6. The total weight of beets delivered by wagon is to be decided by weighing on the factory scales. The total weight of beets delivered by railway is to be determined by weighing on the scales at the depot in Hadmersleben. The determining of the net weight, less the allowance for tops, dirt, etc., is left to the factory superintendents. Against the decision of the factory superintendents the stockholder has the right to appeal to the directors. The decision of the directors is final. The difference between the estimated net weight and the actually con-

sumed taxed weight at the end of the business year is apportioned by percentage on all stock and other beets delivered, and payments made accordingly.

Sec. 7. Every stockholder is bound to answer conscientiously every question put to him by the superintendents or inspectors.

Sec. 8. In case an actionary, or stockholder, does not comply in one or more points with these instructions, and especially if he plants beets on rejected land or makes untruthful statements to the superintendents or inspectors or does not comply with the instruction in regard to the use of artificial manures, the superintendents may refuse the beets, or may accept them at a lower price, if they see fit.

The above rules as to the mode of culture insisted on apply, also, to other farmers not shareholders, the difference being that they receive less for their beets.

Great pains are taken in raising the seed for the factories, the object constantly in view being the increase in the percentage of sugar in the beet and the increase in the yield. Prof. Maercker has, however, expressed the opinion that the improvement of the beet cannot be pressed much further in the direction of increasing the sugar ingredient without endangering its productiveness. The object to be kept in view in the future, therefore, will be the evolution of a beet with the present high percentage of sugar and at the same time more productive.

As is well known, it takes two years to produce seed. In the first year choice seed are planted and beet roots grown. These roots are individually carefully examined and analyzed before being replanted in the second year to produce seed. The reliable seed grower tests every single roots and plants only such as are found to be especially rich in sugar.

When it is remembered that this systematic method of improving the beet root has been pursued for many years, the precautions taken by factory managers to compel the use of only such seed as have been delivered by themselves will be better understood.

The End of the Cotton Year.

Aug. 31 closed the cotton year of 1891, '92, and the yield in every respect is successful. The prices are lower than ever before. On Sept. 1 last year middling spot cotton in the St. Louis market was quoted at eight cents per pound, while on Wednesday, Aug. 31, it was seven cents per pound. The lowest point reached during the season was early in the Spring, when middlings were quoted at six and five-sixteenths cents, the lowest, it is claimed, in the history of the market.

The following, from the *Daily Price Current and Market Report*, issued by the Jerome Hill Cotton Company, is replete with valuable statistical information:

To-day is the commencement of a new cotton year, and values of cotton are lower than have been known on the 1st day of September for the past 40 years. There was one time, during great financial panics and revolutions in Europe, when cotton sold lower than to-day, but unlike the present, everything was depressed. To give customers some idea of the changes in values for the past 12 years, we give the quotations of middling cotton and the value of a 500-pound bale on the 1st of September, in the city of St. Louis:

1881	11¼c	$56 25	1877	9¼c	$46 88
1882	12¼c	63 12	1888	10 c	50 00
1883	9½c	48 12	1889	11 c	55 00
1884	10½c	53 12	1890	10½c	52 50
1885	9½c	48 75	1891	8 c	40 00
1886	9 c	45 00	1892	7 c	35 00

When we consider this enormous decrease in values of the Southern States' greatest export crop, and a crop, too, that is an indispensable necessity to all nations, and that is most exclusively American, it becomes a matter of serious consideration, not only for the people of the South, but the entire people of this country. A most remarkable feature is that it is claimed that we have had in this country but little if any reduction in the values of manufactured cotton goods. It is true that some European mills are reported to be running at a loss, but American mills are buoyant with prosperity.

A very prominent and reliable New York house was asked the question, "What profit are print cloth manufacturers making net on a bale of cotton?" The reply comes as follows: "Well-informed parties think their profit is $20 per bale." Parties here in St. Louis think, however, that their profit is nearer $30 per bale. Now it is a conceded fact that at present values a cotton producer will have a loss of from $5 to $10 per bale. If the manufacturer is gaining $20 per bale, the natural conclusion is that the protected manufacturer is rapidly growing rich at the cost of the producer and consumer, and that no Western wheat and stock grower or Southern cotton grower realizes any advantage from the decline in raw material that is so injurious to the South and a calamity to the Nation, for cotton has always been the most available of American products to turn the tide of gold shipments in the months of September and October, and to pay off American balances to Europe.

European Grain.

At the opening of the "Corn Fair," held in Vienna, Austria, recently, Herr Natchauer, President of the Corn Exchange, delivered the opening address. He spoke of "the growing unremunerativeness of corn growing in Europe in the face of the overwhelming American competition, constantly increasing through the continual opening of new regions to cultivation and the lowering of railway freight rates." The speaker said that in view of this competition there remained but one chance for Europe, namely, the building of a network of canals in Central Europe.

THE GRANGE.

The Great and Important Issue Before the American People is the Money Question.

THE CONFLICT in the Grange is now progressing rapidly. Politics are occupying the members' thoughts. Politicians and the partisan press also are putting in their dirty and misleading work, and out of all this commotion the country will pull through safely. Potatoes and corn will grow next season, and human industries will all be fighting the battle of competition, the same as ever before. No one will be hurt but office seekers—the fellows that get left are always unhappy.

It is an impossible task to convince the average Granger that if either the Democratic or Republican parties succeed, the American industries will suffer. The election scare over tariff does not blind the farmer. At least, he can see through the skimmer. Within eight years both parties have been in power; both parties desired to keep the wheels of Government in motion; both parties wanted money enough to come into the United States Treasury to pay all officer's salaries first, and Government expenses last; both parties know it costs over $1,000,000 per day; both parties, and every sane man in America, are agreed that the money to pay all Government expenses shall be raised from the sale of public lands (that have not been given to railroad corporations, or rather hired them to take it, and gave nearly enough besides to build railroads for them). And in addition to this, duties on imports, taxes on imports or revenue from this source, no matter what they call it.

This being the case, farmers have discovered that the tariff dodge is altogether too thin to hold water or form an honest basis for party organization. And to-day we are confronted with the ridiculous spectacle of two great political parties with no other valid difference between them but office and power; to turn the fat rascals out of office and put in lean rascals in their place to fatten, or to keep in the fat ones because, now, they have got used to the feed and don't grunt so much about it.

This makes the conflict. The members were born politicians, and they are about evenly divided in the order. All of us have to keep our mouths shut over this fact, because we cannot be partisan, nor can we be advocates of parties in our Granges. But we can discuss measures and principles of parties from A to izzard, and we do do it most thoroughly, and in this manner we have come to see the truth, as above stated.

Every farmers' organization in America has repeatedly called upon our American Congress to increase the volume of money; every Grange has so pronounced, and almost every farmer is so convinced, and they have come to these conclusions because the history of our Nation and the history of all Nations proves that with the most plentiful supply of money the most prosperous and happy times were upon us for farmers and laborers.

We are falsely told by the partisan press that money was never so abundant or cheap as now, when every day and every hour all over this broad land mills lay idle because there is not money enough to be had to keep them in motion. In the great manufacturing cities of Ohio the banks pay four per cent. interest on individual deposits to attract idle money to them, so they can supply the mills with more money at seven to eight per cent. Do you call this cheap money? Ohio is a very conservative State, and she fares better than the Western ones, for there the interest rates are heavier still—blood money it amounts to there. Is it a wonder that change in political parties is now demanded by farmers?

A blind man can see there is only one great and important issue before this American people, and that is the money question. It is Wall street and England versus The People. Who shall win? is the question. Many thousands of Republican farmers believe their party is given up, bag and baggage, to Wall street. Everybody, Democrats and all, know what the Democratic party is, because Grover Cleveland has so stated and promised; and, for this reason, there is a conflict in the Grange all over this broad land.

Forty-three different States are wrestling with this problem, and it looks as though a new Moses would receive the votes of thousands of farmers this Fall who never backslid before. The houses in Washington had better not be engaged until after election in November this time; nor had betting better be heavy. Farmers have called in vain for needed legislation, and both of the old parties are sadly to blame for this defeat. Both parties need their votes to make them parties or keep them parties, and both of them will get fewer votes this next Fall than they would if they had dealt fairly by the people.—H. TALCOTT.

Some Calendar Oddities.

The days of the month and week are always the same in March and November, in April and July, and in September and December; that is, if March "comes in" on a Monday, November will do likewise, the same rule applying to the other months named above. In leap year January is with April and July, in other years it is with October. February, in leap year, is with August, in other years with March and November. The last day of February and the 4th day of July always occur on the same day of the week; the same is true of May Day and Christmas.

Thirty-two silk manufactories at Lyons, France, have decided to make exhibits, and each one is striving to make the finest showing. Lyons is the greatest silk manufacturing center in the world, and made a magnificent display at the Paris Exposition. It is reported, however, that it will do still better at Chicago.

PROGRESSIVE AGRICULTURE.

The Most Recent Discoveries, Developments, and Ideas in the Science of Farming.

Alkaline Fermentation of Milk.

STRANGE as it may seem, the souring of milk is not always accompanied with the formation of an acid. There is another kind of fermentation of milk in which an alkaline reaction is developed. In this fermentation the milk is curdled as in the ordinary way, but it is not rendered acid. This change seems to be effected by some ferment similar to rennet.

It is self-evident that changes which occur in boiled milk which is not subsequently exposed to inoculation cannot be due to the ordinary micro-organisms which produce the lactic acid fermentation. The coagulation of boiled milk is called spontaneous fermentation. The milk may become coagulated into a soft, slimy mass, and this mass often has a bitter taste, and in the case of any such fermentation the taste is never sour and no acid is developed. As has been before remarked, the reaction to test paper is often alkaline, but is never acid in such cases. After a few days the curdled mass shows signs of solution, and if the milk is allowed to stand for a reasonable length of time the curd will be completely dissolved. The solution which ensues does not have the appearance of milk, but is a semi-transparent mass. When such milk is analyzed in this state it reveals the presence of a number of bodies, some of them resembling the natural digestive fluids of the alimentary canal. In short, the process seems to be a kind of spontaneous digestion, as the presence of large quantities of peptones proves. The alkaline reaction is due to the development of ammonia, which is doubtless produced from the albumenoids of the milk.

Butyric Acid Fermentation.

It has been previously mentioned in these papers that the fat of cow's milk is distinguished from the fat of the animal's body, and from fatty oils chiefly by the presence of the glyceride formed by the union of ordinary glycerin with butyric acid and other related bodies. These acids are distinguished from the other fatty acids, such as oleic, palmitic, and stearic, by reason of being easily volatile at the temperature of boiling water. These glycerides are more easily decomposed by fermentation than the more stable compounds which glycerin forms with the other acids mentioned. It is for this reason that butter becomes so easily rancid, the rancidity being due to the separation of the butyric acid.

A similar fermentation sometimes also occurs in milk. As has already been shown, the ordinary fermentation results chiefly in the conversion of the milk sugar into lactic acid. Butyric fermentation of milk, on the other hand, consists in the decomposition of the fat itself and the setting free of the butyric acid, or also in the production of the latter acid from the milk sugar itself. The butyric ferment, like the lactic ferment, is supposed to be caused chiefly by the micro-organisms which Pasteur was the first to describe. Several species of micro-organisms have been studied which are capable of producing the butyric ferment, either in milk or in butter. As a general result of the study of this kind of fermentation, it is undoubtedly true that there are several species of bacteria which are capable of producing a separation of butyric acid from glycerin or of producing it from lactic acid. If, therefore, the fermentation should be regarded as one capable of being produced by a large class of organisms, it would avoid the difficulty which many investigators have fallen into of supposing it due to a single one. From such suppositions many of the results of these investigations seem to be contradictory; whereas, in fact, they can be made harmonious on the above assumption.

Prof. Conn calls attention to the importance of this class of fermentation for practical dairying. According to him, in the ordinary handling of milk, this class of organisms producing the butyric fermentations has little importance; but it has been supposed they play an important part in the keeping properties of butter. Rancid butter, as is well known, contains considerable quantities of butyric acid, and the development of the rancidity is parallel with the appearance of butyric acid. From a practical point of view, it is doubtful whether the action of bacteria have much importance in the dairy; although it must not be forgotten that lactic acid itself may be the subject of the butyric fermentation, so that butyric acid might be formed independently of its existence in the form of glyceride. It is even supposed that sunlight may produce decompositions which resemble very much those of a butyric fermentation. In fact, it has been shown that in certain conditions the bacteria which are present in butyric fermentations may be introduced into fresh butter without being able to make it rancid.

From these facts it has been concluded by some of the later observers that rancidity is due largely to the influence of light and oxidation, and not exclusively to the action of micro-organisms. Upon the other hand, sunlight alone cannot produce rancidity. A butter from which air is carefully excluded will not become rancid. Upon the whole, therefore, it is concluded from these tests that while there is a large class of bacteria which are capable of producing butyric acid, their action is not necessarily connected with the formation of butyric acid in butter. Rancidity may be hastened by them, but it will occur in spite of their entire absence, and is probably of the nature of a direct chemical oxidation, closely connected with the agency of sunlight.

It follows from the above observations that the dairyman does well who not only keeps his milk and butter in a cool place, but also in a dark one. While it is true that the milkhouse should be clean and well ventilated, it is also equally important that it be cool and dark. Or, if the light be freely admitted into the milkhouse, the vessels containing the milk and butter should be opaque and carefully closed, so that the light is entirely excluded from both milk and butter in so far as possible.

Bitter Milk.

All are familiar with the bitter taste which is imparted to milk when the cows are allowed to graze in fields in which a large amount of rag-weed is growing. After the harvest of Fall wheat the cattle are often turned on the stubble to graze. The rag-weed is likely to grow profusely after harvest, and if a dry season comes on and the grass and other forms of grazing become deficient, the cows eat largely of the rag-weed. The bitter principle which this weed contains passes through the organism of the cow and into the milk, making it quite inferior for drinking purposes. In the same way when cows graze in fields which contain wild garlic their milk becomes so tainted as to render it unfit for use. So widespread is the impression that the character of the food which the cow consumes influences the flavor of the milk, that in some States the sale of the milk of cows fed on slops and refuse from distilleries is forbidden.

There is another kind of bitter taste which the milk may acquire which is probably due to fermentation. Milk fermented in the manner just described, and without the formation of lactic acid, is very apt to become bitter. This form of bitter milk is a well-known trouble to dairymen, and by some the cause has been assigned to organisms produced by butyric acid. It is also said that the milk of old milk cows, and those in which the period of lactation has been prolonged beyond the natural limit, have a tendency to become bitter. Late investigations have tended to show that the cause of the bitter taste is probably due to some form of bacteria. The bacteria, however, which produce this bitter taste are probably wholly independent of those which form the butyric acid, as the bitter taste has been observed where no butyric acid was present. Nevertheless, as Prof. Conn has shown, the bitter taste may be associated with butyric acid. Prof. Conn isolated from a lot of extremely bitter cream a micro-coccus which rendered the milk very acid and very bitter, and at the same time produced butyric acid.

The weight of testimony is in favor of the supposition that when the bitter taste in the milk cannot be traced to some constituent of the cow's food it must be regarded as due to the action of a peculiar form of micro-organism. These micro-organisms are sometimes associated with the production of butyric acid, while at other times no butyric acid is formed; but the bitterness in no case can be attributed to butyric acid, which, in its pure state, does not have a bitter taste.

The exact nature of the compound which gives the bitter taste is not distinctly known. It is probably an organic nitrogenous base derived from the decomposition of one of the digestive products of the albumenoids. Some peptones have a bitter taste, and it has been thought by observers that this was the sole cause of the bitter taste alluded to; but the bitterness of such milk seems to have no relation to the quantity of peptone which may be found.

The practical point, evidently, is for the dairyman to avoid the presence of organisms which produce the bitterness in milk, and this is only another emphasis of the fact that absolute cleanliness and frequent fumigations are essential to the conduct of a first-class dairy.

Alkaline Curdling of Milk.

Prof. Conn suggests that in the ordinary handling of milk that class of organisms which produces the alkaline fermentations, already alluded to, is of little importance. These organisms grow slowly, and the normal forms which produce the lactic acid under ordinary conditions grow so much more vigorously than these deleterious ferments that the latter have no chance in the struggle for existence. In addition to these, what may be called the normal lactic acid ferments soon make the milk so sour that no further bacterial growth is possible. In this way nature seems to preserve the milk from the action of deleterious ferments by reason of the vigor of those of the least harmful character. Nevertheless, all these ferments have an interest to the dairymen. Many of them are so constituted that they are not destroyed by a very high temperature; so that the sterilization of milk by heat becomes a somewhat difficult problem. The experimenter will subject his milk to a heat which will get rid of all ordinary ferments, and find thereafter that some of the detrimental ferments are still viable. These organisms sometimes get a start in milk and interfere with the natural process of curdling. This accounts for the fact that milk does not always curdle in the same way. Sometimes the curd is stiff and jelly-like, so that it can be cut with a knife. At other times it is slimy, and it may occupy all the conditions between the two extremes mentioned. These variations in the condition of the curd are doubtless due chiefly to the character of the ferments producing them. That class of bacteria which acts something like the ferment of rennet is not an unimportant constituent of the whole army. In the keeping property of butter they doubtless play a part, or rather, we should say, in the not-keeping qualities, inasmuch as they are responsible for a great deal of the rancidity which is found. In the ripening of cream they take an important part, but reach their highest importance in the ripening of cheese. As far as cheese making is concerned, it may be said that the study of the process which takes place is still in its infancy, and there is no more inviting field for the investigator than is presented in the study of the ripening of cheese. Prof. Conn very justly remarks that we are only on the threshold of the study of these organisms;

for while the lactic acid organisms have been quite carefully studied in the past years, the rennet-forming class has only recently come into notice.

Blue Milk.

Many dairymen have been troubled with the occurrence of blue milk, which renders their products unsalable.

The production of blue milk is probably due to a species of fermentation, which sometimes occurs as an isolated trouble in a single dairy, while on some occasions it becomes so general as to partake of the nature of an infection for a whole neighborhood. In former times the occurrence of blue milk was explained by referring it to some particular food which the cow had procured, or from some form of a disease from which the animal was suffering. These old notions have been entirely replaced by the modern theory of micro-organisms.

The micro-organisms which produce the blue milk have been isolated and studied separately. As a result of these investigations a simple solution of the blue-milk trouble is presented. It consits simply in keeping out of the milk the organisms which produce this peculiar kind of fermentation. Recent investigations have shown that the organism which produces the blue milk, if acting alone, is incapable of producing the phenomena of which it is characteristic. It is only when accompanied with the lactic acid ferment that the intensely deep blue color is produced.

The name of the organisms which produces this color, in connection with the lactic ferment, is *Bacillus cyanogenus*. It was a former supposition that the fermentation that produced the blue color was confined to the casein of the milk, but later researches seem to favor the idea that it is produced by some modification of lactic acid.

Milk sugar in its pure state is never affected directly by the ferment, and must be first converted into lactic acid before the ferment will show its true characteristics. Prof. Conn says that when growing in ordinary milk the effect of this organism is very marked. For a few hours no change is noticed, but at just about the time that the milk begins to get acid some isolated blue patches make their appearance. The appearance of the pigment in these patches seems to be due to the milk getting slowly coagulated from the effect of the lactic acid forming, the coagulum itself localizing the action of the blue milk bacterium. The faster the acid forms the quicker the coagulation appears, and the smaller are the blue patches, while if the acid is produced very slowly the blue patches are larger and the deeper the color. The source of the blue milk organisms is unknown, nor is the cause of the occasional epidemics well established. It is certain, however, that in all cases it is due to the absence of the proper precautions for securing absolute cleanliness in the dairy. In some cases the trouble has been traced to a single cow in a large dairy, and has been easily stopped by isolating the individual which is found to be the cause, or by carefully washing the cow's teats with a little acetic acid solution.

Blue milk is always an infection due to outside contamination, and its remedy is always to be found in care and cleanliness. It does not occur in a carefully-kept dairy. Blue milk appears to be harmless. It has been fed to animals, which eat it rapidly and without harm. Within a few years blue cheese has been brought to the attention of scientists, and has been attributed to the same organisms which produce the trouble in milk. It is probable that there is more than one kind of micro-organisms capable of producing this phenomenon.

Alcoholic Fermentation in Milk.

The production of alcohol in milk does not take place so readily as is the case with most other dilute solutions of fermentable sugar. One reason for this, perhaps, is that the milk sugar in solution is more stable in the presence of alcoholic ferments than invert sugar, fruit sugar, glucose, or even cane sugar. The milk sugar, moreover, naturally submits itself to the lactic acid fermentation, and this is a kind of protection against its undergoing an alcoholic fermentation. As is well-known, alcoholic fermentations are generally produced by that class of organisms called yeasts, while the fermentations which have already been mentioned in these papers are produced by bacteria.

One of the practical applications of the alcoholic fermentation of milk is found in the production of koumiss. Koumiss is a drink which has been known for ages among the Tartars, and was originally prepared by them from mare's or ass's milk. In recent years, however, the production of koumiss from cow's milk has grown to be an industry of considerable magnitude in the United States. Koumiss forms not only a pleasant beverage for healthy persons, but in some forms of irritation of the stomach seems to be about the only food which can be readily digested. It is found of great benefit in many classes of low fevers, and is used largely by physicians in the general treatment of many cases of chronic disease.

The fermentation of milk for the production of koumiss is somewhat of a secret, and it is not everyone who is able to accomplish it. The essential points of success are, a careful control of the temperature and the development of a pure yeast suitable to the alcoholic fermentation with the exclusion of every other form of fermentative germ. The makers of the best koumiss are those who have been able to secure the purest form of organism and to maintain it in a pure state. After fermentation the koumiss is kept in cool cellars in bottles in a horizontal position, and becomes better with age. The casein in the koumiss will be found to be coagulated in large lumps when it has been standing for a long while. Before the bottle is opened this lumpy coagulum can be entirely suspended in the liquid by gentle shaking. Koumiss prepared in this way and then poured into a glass is filled with small bubbles of carbonic acid, and the liquid becomes almost of a pasty consistence. This is the best form for use, especially for invalids.

The amount of alcohol which koumiss contains varies from one to four per cent.; the average percentage being about two. It is, therefore, an alcoholic beverage of the mildest character, and could scarcely be objected to by even the most temperate. Not only is the milk sugar changed in the production of koumiss, but the albuminous constituents of the milk also suffer partial digestion. Peptones and para-peptones are found in koumiss of good condition, and it is probably owing to this partial digestion that koumiss possesses such high nutritive powers for weak and disordered stomachs. It is believed that in most cases in the manufacture of koumiss a little cane sugar is added to the milk before the fermentation takes place; but there is no doubt of the fact that alcohol can be formed from milk sugar without the addition of cane sugar. It is believed that a more general consumption of koumiss would prove to great advantage to the drinkers of cool beverages, and it would be a most grateful and wholesome substitute for the various kinds of so-called soda waters which are sold over the counters of our drug stores during the heated season of the year. A great advantage would accrue to the agricultural portions of our country in securing the introduction of koumiss as a popular drink, and it is only necessary to bring a well-made article to the attention of Summer drinkers to secure its speedy adoption as a beverage. Strange to say, very few Americans have ever even tasted koumiss, and therefore there is little demand for it. Its excellence, however, as a beverage, its cooling influence on the heated body, and its wholesomeness all commend it as a drink which ought to be, and doubtless will be, some time very popular. It is easy to see what an immense quantity of milk could thus be brought into the market, and in this way the dairy interests would secure highly beneficial results.

There is another alcoholic beverage made from milk which is not known to any extent in this country. It is found in the Caucasus, and is known as kefir. Kefir is usually made in leather flasks. The fermentation is started by placing in the milk some small bodies called "kefir grains." These grains contain the fermenting organisms, and they not only start the fermentation, but appear to grow themselves during the process. After the fermentation is over the old grains, or new kefir grains which are formed, are removed from the liquor and saved for another operation. These grains can be dried at a low temperature and their vitality thus maintained for many years. The origin of the original kefir grains is not known, since they have been handed down from generation to generation from time immemorial. These grains contain a yeast, and perhaps, also, some order of bacillus and other organisms. From the result of the studies which have been made of the kefir fermentation it is easy to see that it is not a simple process, as is the case with koumiss, but it is due to the combined effect of many organisms of a highly different character. As Prof. Conn says: "There is evidently a considerable similarity between kefir and koumiss, since each is essentially an alcoholic fermentation of milk sugar accompanied by secondary changes. Chemical analyses also tell us of many secondary products, but at the same time there are some points of difference." In the first place, the kefir is made directly from cow's milk, while the koumiss is made from mare's milk or cow's milk, to which cane sugar has been added. The chemical analyses of these two beverages are yet too incomplete to determine definitely minor differences in constitution, and it may be finally shown that they are only the same substance which is prepared in a slightly different way. Doubtless they have about the same relation to each other as beer, ale, and stout, which are all essentially the same thing, with slight differences in the methods of preparation, storage, bottling, and handling. Prof. Conn says, in summing up the literature on these two beverages, "that while the alcoholic fermentation of milk is not very common, it is nevertheless well defined. There are at least two or three species of yeast which can produce it, preceded, probably, by an inversion of the milk sugar and the formation of dextrose and galactose therefrom. There are two well-known beverages, koumiss and kefir, which are produced by a complicated fermentation of milk, the formation of alcohol being an essential feature in both cases. It also appears that small amounts of alcohol are produced in some of the common forms of lactic fermentation, and finally, we have found that almost any species of yeast can produce alcohol from milk if the process be first started by adding to the milk a little of the easily fermentable cane sugar. It has even been suggested that the waste whey of cheese factories might be used as a profitable source of alcohol."

Slimy Fermentation.

There is another kind of milk fermentation which, in some respects, resembles the mucus fermentations that often attack solutions of invert sugar. It is stated that in Norway and Sweden the people are extremely fond of this kind of fermented milk, and prepare it artificially as an article of diet. They accomplish this by rubbing the interior of milk vessels with a plant named *Pinguicula vulgaris*, and the same result is also said to be secured by feeding this plant to the cows. Slimy milk has an important bearing on the manufacture of Edam cheese. Aside, however, from its use as an article of food, and in the manufacture of cheese, the occurrence of slimy milk is a cause of trouble. Milk when it has suffered this slimy fermentation produces no cream and ordinarily is unsalable.

Many theories have been advanced in regard to the cause of slimy milk. It has been ascribed to diseases in the mammary glands of the cow, to peculiarities of diet, and to external conditions in the dairy. There is no doubt, however, of the fact that slimy milk is produced by the micro-organisms which are developed in the milk as in the case of the other fermentations. As in the other cases, extensive investigations have shown that slimy fermentation can be produced by a large variety of organisms, and not alone by a special kind. Prof. Conn has described a micro-coccus which belongs to the rennet ferment-producing class, curdling the milk and subsequently dissolving the curd. The solution which results is extremely

slimy. This organism produces an intensely bitter taste, and was found to be present in certain samples of bitter milk found in a dairy. Although the slimy fermentation of milk is doubtless due to a variety of organisms, it must not be understood that it is essentially the same in all cases. On the contrary, there is no doubt that there are several different classes among these organisms, and that they work in different ways. Even in their general effect on milk there is a wide difference of results. Some of them give to the milk only a slight sliminess, while others render it exceedingly tenacious. Sometimes the milk can be drawn into threads as much as 10 feet long without breaking. While slimy milk and ropy milk may be produced by distinct forms of organisms, they are doubtless due to the same general class of ferments. Some of the organisms render the milk slimy in the early stages of fermentation, while with others it only becomes so after several days. In still another case, fresh milk is not rendered slimy but only curdled, the curd being afterward dissolved and the solution then becoming slimy.

In regard to their chemical relations the fermentations are also widely different from each other, but not enough is known to enable us to classify them at present. The chemical composition of the mucus produced appears often to be a secretion from the bacteria themselves, while in others it is the result of a decomposition product of some of the constituents of milk. In the one case, the mucus may be of a carbohydrate nature, and in another will have albumenoid characteristics. Some 18 distinct organisms have been described as being associated with the slimy fermentation of milk. Only about half of these, however, have been found occurring spontaneously in milk, while the others have been cultivated in other solutions. For practical purposes in the dairy, therefore, danger may be feared, so far as our present knowledge extends, only from eight or nine of the different kinds of organisms. Probably the whole secret of the trouble will be found in the contamination of the milk after milking. This contamination may come either from the milk vessels, from the hands of the milker, or from spores in the air. It is easy to see how the milker in handling the product might infect the milk in some accidental manner. Various micro-organisms may be concealed in the hay or other food of the cow, and when these foods are stirred up in giving them to the animal germs might easily find their way into the milk. As in other cases of fermentation, the great prophylactic treatment, and one which will uniformly prove successful, is found in absolute cleanliness in the dairy and about the barn, and in the occasional fumigation of the stalls and dairy with burning sulphur or some other germ-killing substance.

Japanese Flower Ceremonial.

The visitor must leave his fan in the antechamber, and, entering the reception-room, seat himself respectfully on his heels in front of the shrine. If there are three kakemonos (pictures on rollers), he must examine first the central one, then that to the left, and, lastly, the one on the right hand. He then is supposed to signify his opinion as to the particular merits of the floral trophy. There are strict rules as to the exact degree of admiration to be expressed according to the character of the specimens. Indiscriminating gush is not permitted in polite circles. The respectful inspection over and the proper things said, the host presents to his guest, on a tray, cut flowers and branches, a knife, scissors, a small saw, a vase, and a napkin, at the same time rolling up the kakemonos, "as it is considered to be demanding too much of a visitor to expect him to extemporize a flower arrangement in harmony," but the guest may face the difficulty and retain the unfamiliar background.

The master of the house now offers one of his most precious vases suitable to the season and the flowers, and the visitor pleads his inability to do justice to so beautiful a receptacle, but if pressed to make use of it he must then take care that the arrangement is simple and unobtrusive, so as not to distract attention from the vase. When completed, the implements are again arranged on the tray, with the exception of the scissors, which are "left near the flowers as a silent and modest invitation to the master of the house to correct faults." The host sweeps up the rubbish and takes away the tray. The other visitors, who have meantime been waiting in the anteroom, are now admitted to pay the proper compliment. Before leaving, the artist, unless a person of superior rank, takes the flowers out of the vase; "it is considered presumptuous of him to quit without destroying the evidence of his skill." Should the entertainer by inadvertence have supplied scented flowers on an occasion such as an "incensed meeting," when perfume is prohibited, the polite artificer makes no remark, but snips off the blossoms, leaving only the unopened and scentless buds. The flowers must not be offered trimmed, or they might look as if they had been previously used.—*The Saturday Review.*

Filling a Bride's Pockets With Bread.

One of the most peculiar customs in vogue in different countries on the occasion of a wedding is to be found in Denmark and Sweden, where it is usual on the wedding day for the bride and bridegroom to sit on a raised platform under a canopy of silk, all the wedding presents being artistically arranged on a bench covered with silk. The bride has her pockets filled with bread, for according to a popular superstition it is supposed that every piece she gives to the poor on her way to church averts some misfortune; but the person to whom she gives it must not eat it, or they will bring misfortune upon themselves. Should the bride lose her slipper, then she will lose all troubles; only in this case the person who picks it up will gain riches. Another version of this Swedish custom is that a bride must carry bread in her pockets, and as many pieces of it as she can throw away just so much trouble does she cast from her; but it is unlucky to gather the pieces.

THE WORLD'S FAIR.

Some of the Many Valuable and Interesting Things Which Will be on Exhibition.

The Japanese Government has arranged to send to this country 2,000 Japanese of the middle class, who are to be here during the World's Fair and afterward make a tour of the principal cities of the United States. Instruction and information as to the industries and customs of the American people constitute the object desired to be attained.

Germany's building will cost about $125,000, and will be a combination of typical styles of German architecture, such as are seen in perfection in Nuremburg. It will be massive in construction, the first story being of great blocks of sandstone and the second of a combination of brick and cement. At one end will be erected a Gothic cathedral, the windows of which will show exceedingly artistic effects, being the work of several of the most famous designers in Germany. The interior of the building will be finished throughout with natural woods unpainted. Much the building material has already been received from Germany, and the construction of the edifice is in progress.

Among the exhibits to be made by foreign nations the visitor will doubtless find that of Persia one of the most interesting. It will include rare specimens of art industry work. Rich and highly wrought fabrics will constitute an attractive feature, as will exquisitely fine embroideries and elaborately-worked gold and silver jewelry, rare Persian rugs, carpets, embroidered hangings, etc. There will also be found in this Persian exhibit a department for manufactured articles, such as arms, curios, and richly-wrought armor, tiles, and tile work, mosaics, objects of art, antiquities, musical instruments, wearing apparel, etc. Altogether the Persian exhibit is promised to be characteristic and exceptionally unique, a collection rich in objects of cost and beauty.

Ho Shen Chee, translator and attache of the Chinese legation at Washington, has visited Chicago for the purpose of becoming familiar with World's Fair matters, and making arrangements for Chinese exhibits. The Chinese Government has made no World's Fair appropriation, because such action is contrary to its policy, but it will aid exhibitors by remitting the heavy export duties on articles sent for exhibition, and will otherwise encourage the making of a Chinese exhibit. Ho Shen Chee says that his Government desires to advertise its wares, and fully realizing that all nations are to be well represented at Chicago, will not allow the exclusion law to interfere with a creditable showing of its own goods.

An offer of $120,000 in cash has been made for the exclusive privilege of selling peanuts at the World's Fair.

William E. Curtis, of the Latin-American department, has started for Europe in quest of Columbus relics for the Exposition. Mr. Curtis will also present Government requests to the Queen of Spain and the Duke of Veragua, a descendant of Columbus, for important relics, and will also carry handsome invitations to the Spanish Queen, the infant King, and the descendants of Columbus to be present at the dedication exercises in October, and to attend the Fair next year. By a recent act of Congress, the United States Government is made responsible for any relics that are sent to the Exposition. The requests for them and the invitations are handsomely engraved on parchment.

The Winnebago County (Ill.) Woman's Columbian Club, for a time contemplated making an exhibit at the World's Fair, but has now decided instead to raise sufficient money to send to the Fair for eight days 156 working women and pay all expenses. It is believed that many other woman's clubs will follow their very commendable example.

Curious Customs in Chile.

In this queer country there is a funny side, even to funerals, says Fanny Ward in a letter from Valparaiso. The other day a sound of music attracted me to the window, and what do you think I saw?

A mahogany-hued peon carrying on his head and outstretched hand a plank about five feet long, and on the plank a dead child. The little corpse was that of a girl, apparently about five years old. It was attired in a short frock of red calico, the legs incased in coarse white hose, a "world too wide for the shrunk shank"; no shoes; the jet-black hair smoothly braided and crowned by a jaunty wreath of paper roses, and the cheeks horribly daubed with vermilion to simulate the hue of health.

The plank-bearer was closely followed by two women, evidently the mother and grandmother of the deceased, and they walked with an air of conscious importance, as becomes those who have furnished "another little angel"—as here a dead child is universally called—to swell the heavenly host.

Behind the women marched two men playing with might and main, one on a fiddle, the other on a guitar, each intent on a tune of his own, regardless of the other's performance; and the rear was brought up by a dozen or more laughing and chattering men, women, and children, most of whom gave indubitable evidence of unwise generosity on somebody's part in the way of chicha, the Chilean low-class intoxicant.

They were on the way to the Pantheon to inter the "little angel," over whom they had been dancing and drinking for several days, and which possibly had been loaned once or twice in the meantime to friends who were not so fortunate as to have a corpse in the family. Among the more degraded class of Chileans it is the general custom to make death an excuse for orgies, wild and ridiculous, and the body, especially of a child, is sometimes kept for festive purposes until it becomes offensive to people passing the house.

NANCY HANKS.

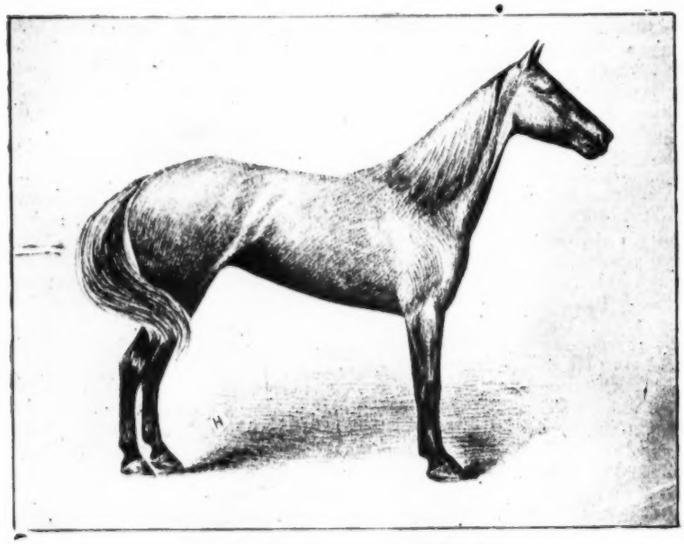
An Animal Which Has Lowered the Record of Maud S by Several Seconds.

THE RACING records have been broken in several instances within the past month, and the most noteworthy instance was the wonderful record made by Nancy Hanks. Maud S held the honor of having trotted the fastest mile up to two weeks prior to Aug. 31. On that day Nancy Hanks was driven over a regulation track at Washington Park, Chicago, and succeeded in making a mile in 2.07¼.

This was regarded as being a remarkable record. The animal was attached to a pneumatic tired bicycle sulky, and it was due to the advantages of this machine that the mile was made in that time. But her trainer and driver, Budd Doble, was of the opinion that she could make a mile in less time than 2.07¼, and he gave her another trial, but without success.

On Aug. 31, however, she was given a second chance to break her record. She was at Independence, Iowa, and had the kite-shaped track to go over. All conditions were favorable for a record breaking mile, and Nancy proved herself equal to the occasion.

At 3:15 on that day she appeared on the stretch, and was jogged up to the loop and turned her face to the kite before her. The attempt was fruitless, and she came back and scored down again. The runner, Abe Lincoln, who prompted her in her great mile at Chicago, was near her, while another was waiting at the post. When she reached the wire she was going squarely and true, and Doble nodded for the word.



NANCY HANKS—THE QUEEN OF THE TURF.

With her smooth, easy, perfect, and matchless gait Nancy Hanks trotted the quarter in 30 seconds. At the half she turned in 1.01 without a misstep. Then began her grand race home. Without a wobble and with perfect swing she shot past the third quarter pole in 1.34. Here the second runner came up, and Doble loosened the mare's head. He encouraged her by voice and a gentle use of the whip, and without a falter she shot under the wire in 2.05¼.

The mile is unparalleled in the history of the world and worthy of study. A strong breeze was blowing from the northwest, and, situated as the kite track is, from the half to the home wire the force of the wind increased with every step. Nancy's first quarter was gone in 30 seconds, the second quarter was but a second slower, and this was gone under a constant effort on the driver to hold her back; 1:01 to the half was considered a little too fast by Doble, and he coaxed her to a slower gait for the next quarter. The breeze began to strike her. It is a hard thing to rate a fast mile by quarters, and the third flag was reached a second or two slower than was intended, but here Nancy was given her head and she finished strong in the face of a northwest wind in 31¼ seconds.

"Another noticeable feature," says Doble, "was the condition of the mare after her mile. Within 15 minutes after she reached her stall she was fresh and lively as a young colt, and no one would dream she had made the greatest trial of her life. Oh, yes, the kite tracks are faster tracks than the regulation shape. How many seconds I would not say, but there is not the shadow of doubt about it."

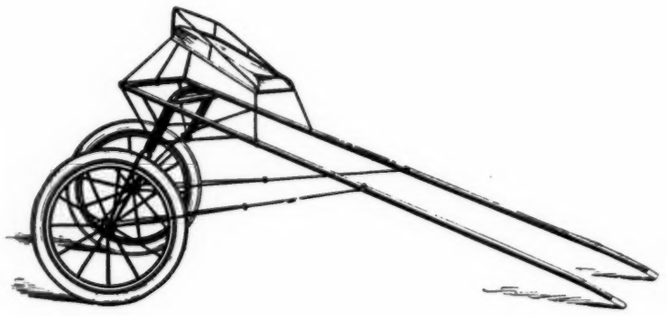
Nancy Hanks has a remarkable record, and she comes as near being a "sure thing," as turfmen express it, than any light harness performer of our present time. Against other horses she has never been defeated, and out of 15 contests has only lost one heat. This was in her three-year-old form at Harrodsburg, Ky., July 31, 1889, where she started in a stake for her age, and after Bonnie Wilmore got the first heat in 2.28¾ the bay filly landed the race in faster time, the third heat being in 2.25¼.

Abbie V, now one of the best known campaigners in the country, took part in the same event, getting third money, and she along with Bonnie Wilmore, made a second unsuccessful attempt to stop the all-conquering career of the future mistress of the turf, at Danville, a few days later. Here Nancy Hanks made the second heat in 2.24½, the best time that had been scored by a three-year-old on a half-mile track. This was her best performance that season, though she won four other races besides the walk-over at Shelbyville in a small stake. Two of her engagements were at Lexington, but as the miles were not sensational, the mare attracted little attention that year. During 1891 she won six more races in straight heats, and her first National fame may be said to date from Aug. 28, when she scored another victory over Bonnie Wilmore at Lexington, trotting the third heat in 2.14½.

Besides the 12 races won by Nancy Hanks at three and four years, she added three more to her list of victories last season, quite the most notable being the one at Independence, in August, where she met Allerton and Margaret S in a stake of $5,000, and reeled off three heats in 2.12, 2.12¾, and 2.12, all of them below what any trotter had done in actual contest. It is doubtful whether her subsequent miles against time raised the peerless young mare in the esteem of turfmen, especially the breeders, as much as these three in a race, as it removed any doubt that may have existed regarding her gameness.

Happy Medium, the sire of Nancy Hanks, had already proven himself a begetter of extreme speed by the doings of Maxey Cobb, the champion stallion from 1884 till Axtell appeared, but the reputation of this strain for ability to carry their speed in races was by no means high. Even now much of the credit for the endurance shown by the greatest of his progeny is awarded to the stout blood she gets from her dam, Nancy Lee, whose sire, Dictator, united the best strains from the North with that of Edwin Forrest, a horse bred in running lines that have nicked well with the trotters.

The sulky used will probably revolutionize racing records. Charles F. Clark, a breeder, whose farm is near Sudbury, Mass., seems to be entitled to the credit of introducing the new style of vehicle for harness racers. He rigged up a sulky fitted with 28-inch bicycle wheels with ball bearings and pneumatic tires, the other features of the regulation racing sulky being preserved. It was a radical departure, and trotting horsemen laughed at the machine. Trainer Jud Woodbury, of Falmouth farm—who used to drive Nelson—tried it, and he and Mr. Clark discovered that there were points of merit in the thing.



THE PNEUMATIC-TIRED SULKY.

They tried it on at a racing meeting at Worcester, Mass., early in the Summer, where people laughed at the machine. Mr. Clark's pacer, Albert D., was between the shafts in a 2.40 class contest. He took three heats easily, one of them in 2.29¼, and the profession began to take a serious interest in the new styles of sulky. Albert D drew it to victory at other meetings, and the bicycle sulky came to be regarded as a highly meritorious contrivance. Volumes in support of its speed-increasing capacity were spoken by the action of the "pools" in barring the horses drawing bicycle sulkies from the betting. And now almost before the echoes of the laughter and derision that greeted the appearance of Breeder Clark's idea have died away, the vehicle is vindicated. Through its aid Hal Pointer has robbed Johnston and Direct of their honors, while Nancy Hanks is undisputed queen of the trotting turf—wearer of the laurels of Maud S and Sunol.

Maud S has held her record so long that it will be interesting to note the development of the trotter, as shown by the records of best miles made during the century. The list is as follows:

1806.	Yankee	2.59	
1816.	A Boston horse	2.48¼	
1824.	Topgallant (saddle)	2.40	
1830.	Burster (saddle)	2.32	
1834.	Edwin Forrest (saddle)	2.31¼	
1843.	Lady Suffolk (saddle)	2.28	
1844.	Lady Suffolk (saddle)	2.26¼	
1852.	Tocony (saddle)	2.26	
1853.	Tocony (saddle)	2.25¼	
1856.	Flora Temple	2.24¼	
1859.	Flora Temple	2.19¾	
1865.	Dexter	2.18¼	
1866.	Dexter	2.18	
1867.	Dexter	2.17¼	
1871.	Goldsmith Maid	2.17	
1872.	Goldsmith Maid	2.16¾	
1874.	Goldsmith Maid	2.14	
1878.	Rarus	2.13¼	
1879.	St. Julien	2.12¾	
1880.	Maud S	2.10¾	
1881.	Maud S	2.10¼	
1884.	Jay-Eye See	2.10	
1884.	Maud S	2.09½	
1884.	Maud S	2.09¼	
1885.	Maud S	2.08¾	
1891.	Sunol (kite-shaped track)	2.08¼	
1892.	Nancy Hanks	2.07¼	
1892.	Nancy Hanks	2.05	

THE COTTON CROP.

The Condition of the Staple and the Lateness of the Picking this Season.

DESPITE the adverse reports the yield of cotton this year will compare favorably with that of other years. The picking has been retarded by the abnormal rains, and very little cotton has been shipped to market. The Memphis district received its first bale on Sept. 1, which is the latest by 19 days in 11 years. In South Carolina the picking has also been delayed, and up to a short time ago only about one dozen bales had come in. The crop in Arkansas is two weeks later than usual, and rain has kept the pickers from working in some parts of Texas.

The South Carolina cotton which came in was not in the best of condition. In Louisiana the condition is nine points below the average, and the yield is expected to fall from 15 to 20 per cent. below that of last year. The condition of the crop in Mississippi is variable, and the State has had an abundance of rain. Caterpillars and boll worms are multiplying rapidly, but as yet no reports have been received of their doing any destructive work.

In Arkansas the rainfall has been above the average and very unevenly distributed; the temperature and sunshine have been below. In some localities where the rain was in abundance the conditions was not at all favorable for the crop. It was the cause of shedding and too rapid growth of the stalk. The damage was not great, however, and with good weather everything will be restored. Boll worms have been reported in a number of Counties, but they have not done serious injury, except in Jefferson County, where it is expected that favorable weather will put an end to the trouble.

The general prospect of the crop in the State is incouraging, unless the boll worm should continue or increase its ravages or an early frost strike some of the later localities. Over 40 Counties have been reported, and those from the southern and eastern part of the State complain of too much rain for cotton. The estimated percentage has fallen from 75 to 65. The staple is opening rapidly, though little is being harvested and put in the market. The receipts at all the principal cotton towns of the State are smaller now than at any time this season for several years past.

Texas will have the best yield of any of the cotton-growing States. Picking is progressing rapidly over the entire State with the exception of the eastern portion of north Texas and east Texas, where the rain retarded work to some extent. The crop over northern and eastern portions of the State is mostly late, but is progressing nicely, though sunshine is needed to hurry the crop in those sections. The temperature for the season, taken as a whole, has been very favorable to the cotton crop, being lightly in excess of the normal over the entire State. The amount of sunshine has been deficient over east Texas and the eastern portions of north and central Texas. Over other portions it has been about the average, with the exception of the extreme western portion of central Texas and the southwest portion of the coast district.

Washington County complains that cotton is drying up in spots. In Brazos County it is stated the total crop will be one-third less than last year, and several Counties report that the crop will be considerably less than last year. Boll worms are reported from several localities, but the damage caused from this source is light.

The acreage in cotton in Texas this year is estimated by those who have studied the crop to be about 4,500,000 acres, which is less than that of last year. The crop has been well cultivated, and as a rule has been kept cleaner this season than usual, the only exception to this being the northeastern portion of the State. With the exception of where the plant has been injured by dry weather the crop should be good. However, many report that the yield per acre will not be as heavy as last year, which was about four-tenths of a bale per acre. In several localities planters are holding the cotton for better prices, while a great many are selling at from six to six and one-half cents per pound. All are taking advantage of the weather, and the crop is being picked as quickly as possible. The returns so far up to this date are not equal to those of last year during the same period.

The Secretary of the New Orleans Cotton Exchange has announced the totals of the cotton crop for the year ending Aug. 31, 1891, and his figures showed that the crop had reached the enormous aggregate of 9,015,379 bales, as against 8,652,597 last year, and 7,211,372 the year before last, an excess over 1890 of 382,782 bales, and the year before of 1,724,057.

The details make receipts at delivery ports 7,137,900, against 6,976,380 last year, and 5,857,174 year before last; overland across the Mississippi, Ohio, and Potomac rivers direct to Northern mills, 1,253,580, against 1,110,935 and 937,471; Southern consumption, exclusive of amounts consumed at ports and included in port receipts, 643,919, against 565,282 and 516,677; exports to Great Britain for the year, 3,315,202, against 3,329,432 last year and 2,850,102 the year before; France, 691,134, against 559,099 last year and 472,737 the year before; Continent and channel, 1,850,541, against 1,890,291 and 1,577,601; Canada overland, 76,550, against 68,390 and 55,491 the year before.

The statement shows that 1,788,467 bales were handled at different points of crossing the Ohio and Potomac rivers, but as 69,332 bales consisted of cotton shipped from overland points to another or back into the cotton belt, the actual gross overland movement to the North and East was 1,719,135. Of this, the Eastern delivery ports received by railroads 465,375 bales, leaving as stated net overland to the mills 1,253,580.

The Secretary says that the total consumption of Southern mills amounted to 686,080 bales, showing an excess of 81,419. Of this total 42,161 bales were consumed at the Southern out ports against 391,349 last year.

The True Purpose of Taxation.

To seek to make taxation, which is a fit contrivance only for raising revenue, an instrument for effecting some ulterior purpose, be it never so just and legitimate; to seek to use it for the attainment of any other advantage than the obvious one of raising money, is to lose sight of a fundamental principle of every free Government and to forbid all expectation of recognizing any other basis for the exercise of this great sovereign power of the State than expediency, which in turn will depend upon the actions, passions, and prejudices of legislators, who may not be the same in any two successive legislative assemblies. Such a perversion of principle, furthermore, reaches its climax of absurdity in practice when its immediate beneficiaries claim to be the only proper persons by whom the incidence and amount of taxation can be intelligently determined, a claim that is practically equivalent to the assumption that privilege should take precedence of right in the theory of government.

The idea of using the power of taxation for other purposes than that of obtaining revenue for defraying the necessary expenditure of the Government was one hostile at the outset to all the beliefs and habits of thought of the American people; was totally incongruous with the social and political system which they instituted and expected, and was reluctantly admitted under the idea that the industries of a new country might need some temporary stimulus and assistance at the outset. It was not until after our late war that anybody ventured to openly maintain or defend the proposition that protection was other than the incidental and not the main object of the exercise of the taxing power, although this perversion of principle was tacitly recognized by the imposition and continuance of taxes which had for their intent or resulted in a prevention of the raising of revenue.—*Forum.*

Europe's Wheat Crop.

The Hungarian Ministry of Husbandry has issued a wheat estimate containing calculations of the wheat harvests of 1892 of those European countries who require wheat imports. The following figures are taken from the estimate:

Great Britain has produced from 23,000,000 to 25,000,000 hectolitres, and will import from 56,000,000 to 58,000,000 hectolitres.

France has produced 105,000,000 hectolitres, and will import 15,000,000 hectolitres.

Germany has produced from 34,000,000 to 35,000,000 hectolitres; imports, from 5,000,000 to 6,000,000 hectolitres.

Italy's crop, 40,000 hectolitres; imports, 9,000,000 to 12,000 hectolitres.

Austria's crop, 17,000,000 to 18,000,000 hectolitres; imports, 8,000,000 to 10,000,000 hectolitres.

Total wheat harvest of all European countries requiring to import the grain, 266,800,000 to 270,800,000 hectolitres; total imports required by them, 114,600,000 to 123,100,000 hectolitres.

The Ministry estimates the rye harvest of these countries for 1892 at 440,000,000 hectolitres, as against 370,000,000 hectolitres for 1891.

A hectolitre is equal to 2.75 bushels.

Irrigation in the West.

The extent of land artificially watered in our Western States is quite enormous. In Oregon crops were raised by irrigation in 1889, the only year for which we have any statistical reference, on 177,944 acres, or 278.04 square miles. One-fourth of this area was devoted to the raising of various cereals, and the remainder to gardens, orchards, and forage crops. In addition to this there was approximately 72,000 acres irrigated for grazing purposes.

In Washington, by means of irrigation, 48,799 acres, or 75.25 square miles, were cultivated. A little over half this crop area was devoted to the raising of various kinds of forage, and the remainder was used for other purposes.

The following table explains what would take more than a page of our space, and furnishes interesting statistics in regard to the subject:

ITEMS.	Washington	Oregon.	Idaho.	Montana.	Nevada.
Total irrigated acreage in crop, 1889	48,799	177,944	217,005	350,582	224,403
Total number of irrigators, 1889	1,046	3,150	4,321	8,706	1,167
Average size of irrigated crop areas, in acres, 1889	47	56	50	95	192
Average size of irrigated crop areas of 160 acres and upward, in acres	324	300	270	307	513
Per cent. of acreage of irrigated crop areas of 160 acres and upward to total acreage irrigated	35	43	26	50	79
Average size of irrigated crop areas under 160 acres, in acres	32	35	30	58	58
Average first cost of water per acre cultivated by irrigation	$4 03	$4 64	$4 74	$4 63	$7 58
Average annual cost of water per acre cultivated by irrigation	$0 75	$0 94	$0 80	$0 95	$0 84
Average first cost per acre of preparation for cultivation	$10 27	$12 59	$9 31	$8 29	$10 57
Average value of irrigated land, including buildings, etc., per acre, 1889	$50 00	$57 00	$46 50	$49 50	$41 00
Average annual value of products per acre irrigated, 1889	$17 09	$13 90	$12 93	$12 96	$12 92

GROWING FRUIT.

What Wonderful Results a Small Place May Be Made to Produce.

BY W. B. SANDS.

NEAR Govanstown, Md., Mr. William D. Hamilton, who is the gardener at Druid Hill Park, the noble and popular public pleasure resort of the city of Baltimore, has a place of some four acres which he devotes to growing fruit of such quality and reputation for beauty and perfection that it is taken up with avidity by the dealers, and finds its way to the tables of the most fastidious. But his place is not more worthy of note for the superior quality of its products than for the great amount to which it gives place, every foot, almost every square inch, being occupied by some paying plant. In this regard it is an object-lesson of what intensive culture may accomplish on small areas.

Except a comparatively small space around the neat and commodious dwelling, given to well-kept lawn and a few beds of rare and attractive plants, the entire ground is devoted to cultivation. Between the rows of fruit trees the smaller fruits are grown, and in the intervals of the grape trellises are rows of strawberries, rhubarb, asparagus, horseradish, and other minor but not unprofitable garden crops.

The soil is naturally a good one, well drained, and was made as rich as is possible by the abundant use of stable manure, which is now, however, no longer used, fine ground bone taking its place, and being applied with liberal hand every season and to every crop. In this way it is considered the acme of fertility has been reached, and the heavy drafts upon the soil by the closest possible planting and the most exacting rotations are promptly honored.

Much of the cultivation is now done by hand from necessity, but wherever practicable a narrow iron cultivator with a very short singletree, drawn by a horse, is used. The fruit is carefully handled, and most of it goes as picked to the retail dealers of the city, bringing always the highest prevailing prices, and often a little more.

Some idea of the productive capacity of the place is to be formed from the following enumeration of the plants it contains. There are 3,000 Concord grapes, 200 Niagaras, and 100 Elviras and Telegraphs, which make the main crop, and about 60 other varieties, of one vine each, grown for testing and exhibition purposes. All these vines are trained on trellises about four feet high, having two wires, and grown on the horizontal and renewal system, which gives fine clusters and better crops. Concord grapes from this place, exhibited at the Baltimore County Fair last year, weighed 17⅜ ounces to the bunch, and Niagaras 16½ ounces. The vines this season are laden with handsome clusters, free from rot or any disease. So far no treatment has been adopted as a preventive against rot or mildew, and no spraying has been employed. Any signs of disease manifesting themselves, the berries or leaves showing it are instantly removed and destroyed.

Mr. Hamilton prides himself on the glories of his Concords, and they are deserving of admiration for the size of the bunch and berry, their perfect health and handsome bloom. The present bearing vines are four years old, and were propagated from the vines of his late father, J. A. Hamilton, who was an enthusiastic grower, and for many years captured the first prizes at the shows of the Maryland Horticultural Society. These vines are traced directly back to the original vine in Massachusetts.

There are about 1,500 blackberries of Erie, Kittatinny, Snyder, Stone's Hardy, Early Harvest, Lawton, and Taylor's Prolific, all making fine growth for next season, and showing no traces of rust, that dreaded enemy of this fruit.

Raspberries of Cuthbert, Shaffer, Golden Queen, and Sonhegan kinds, to the number of 1,500, are growing vigorously, having afforded a handsome crop this year.

Of strawberries, which are renewed annually, about 12,000 were planted the past Spring, and now measure 22 inches across the row, all runners being removed, causing the plants to expand and form immense crowns for next season's fruiting. But two varieties are grown—Sharpless and Kentucky—which have been selected from some 25 sorts, after thorough tests, as being the best for the soil and situation.

Three rows of Lucretia dewberry grow vigorously and give fruit of attractive quality, but the sprawling habit of the vine is against its general cultivation.

A large number of currants and gooseberries of proved sorts, or grown for experiment, find place.

Of the larger fruits there are 125 quinces, the Orange, Champion, and Meech's Prolific; 200 pears, standards and dwarf of established varieties, including 60 Kieffers, which, on these grounds, carefully handled and ripened and richly colored, is found one of the most profitable of all; 100 cherries of best market kinds; 25 apples, and the same number of crabs; 16 apricots, principally of Russian sorts; 125 plums, of the older and newer kinds, including Several Abundance, a wonderfully prolific plum. A large crop of damsons has been marketed. That arch enemy of the plum, the curculio, is successfully combatted by repeatedly jarring the trees in the early morning with a wooden mallet. The insects drop upon a sheet spread under the trees and are destroyed. There are 65 peach trees of approved kinds, which are carefully examined twice a year, and all worms about the roots destroyed. Each season's growth is cut back one-half, and the trees are models of symmetry and health, not the least evidence of the yellows having ever presented itself on the premises.

In addition to the ordinary list of fruits adapted to this latitude there are here to be found specimens of the pecan, English walnut, almond, Japanese and Spanish chestnuts, and the hazel nut, all hardy and thriving. Figs also are grown in some quantity, needing only the usual precaution here of bending over and covering with earth as a Winter protection.

Interspersed with the fruits named are rows of asparagus, rhubarb, and many specimen plants of novelties and new introductions of the standard fruits, which are purchased each year and experimented with, that their merits or demerits may be ascertained by actual experience.

Such is a catalog-like enumeration, of the variety and extent of the fruit on this small place, hard to be equalled, and, as we think, almost impossible to be surpassed, but deserving of attention as an illustration of what may be done. Our limits forbid at this time any reference to the details of management, the cultivation, manuring, pruning, and handling, which are necessary to bring the fruit planted up to the highest excellence, but the skill and intelligence of Mr. Hamilton are equal to every demand, and his experience is open to all interested in his work who seek to profit by it.

The Immigration Question in the South.

EDITOR AMERICAN FARMER: Are not our gates opened most too widely to the immigrant from the Old World? Is not public opinion slowly asserting itself as opposed to the introduction of so much raw material from some, at least, of the Nations of Europe?

It is all very well for America to pose as the "asylum" for the oppressed of all Nations, etc.; but somehow the asylum business is being overdone, we fear. We are indeed becoming an "asylum" for thieves, assassins, thugs, anarchists, and rogues of all kinds, character, and degree. There is no great public interest that demands or that would be fostered by the continuation of this immense stream of Old World immigation.

There are no great interests, either public or private, that would be materially injured if America did not receive another foreign immigrant for 10 years. The foreign immigration may be divided into three classes: first, the agriculturist; second, the laborer, and third, agitator or anarchist, who will neither work himself, nor allow anyone else to work in peace. The first class, the agriculturist, becomes almost at once a good producer of all the staple farm crops, and assists in the work of glutting the market with farm products. It is generally admitted that the increase in the output of corn, wheat, and most other farm products has operated materially to reduce their price, and thereby rendered farming unprofitable during the past 10 years. In other words, the great number of agriculturists coming over here from the Old World has helped very materially to upset and disarrange the law of "supply and demand" of farm products in America.

The great stream of common laborers flocking to our shores has tended to upset the "labor market," and the third class, the anarchists, upsets all classes and conditions indiscriminately. With the deadly dagger, and the deadlier dynamite, he gets in his work.

We could dispense with all these classes for a period of years without serious detriment to any of our institutions. Just now the New World is threatened with that dread disease from the Old World, cholera, which would never become a menace to our people if it were not for immigration, and that, too, of a very low order. The stream of immigration is very large, and there is but little prospect of its becoming less. Still, it is not the "quantity" of the immigrant to which we object so much; it is the "quality" of him. He is a "bear" in the labor market, and in general terms, is an all-around sort of a disorganizer.

The South, fortunately, is comparatively free from this class of immigration. The South is settled almost entirely with English-speaking people. To some extent and in some directions the growth of the South might be more rapid if a half million head of immigrants from the Old World were annually dumped on our shores, but at the same time we prefer that our growth shall not be stimulated by such means.

We prefer a steadier, easier, and a more natural growth. Intelligent, English-speaking people from the Eastern, Western, and Northern States, by the hundreds of thousands, are looking Southward for homes.

To such the gates here are wide open. The intelligent foreigner is also welcome. The man with means to buy a home of his own is also heartily welcomed. But we feel quite sure that if the stream of immigration now pouring to our shores were reduced, by careful selection, to one-half of its present size, or cut off almost entirely, it would result in material benefit to the 65,000,000 already here, and who are even now reasonably busy keeping matters running along smoothly.—A. JEFFERS, Norfolk, Va.

Chinese Farmers.

The Chinese who come to this country engage in almost every occupation which gives them the most returns. Of course there are many things which they can do, but which they are not permitted to do on account of there being enough white residents to perform the same. Almost every city has at least one Chinese laundry. They have proven to be of some use out West in various capacities, such as cooks, servants, and laborers. The latest occupation of some seem to have a great tendency toward agriculture, and large numbers of them are engaged in farming in Montana. Certainly, what will the pig-tailed celestial next embark in?

NEW ZEALAND WHEAT CULTURE.

The Favorable Varieties of the Largest Wheat-Growing Colony in the Australasias.

BY J. N. INGRAM.

A LARGE part of the arable area of New Zealand—on the South Island—are long stretches of plains extending along the mountain ranges, and fronting the sea for 200 and 300 miles. The plains have a width of 50 and 90 miles. They are formed by the gravel thrown up by the sea along the mountains, and covered with the washings from the ranges. The top coating is a crust of soil, made by the decomposition of vegetation through the cycles of ages.

The agricultural regions of the North Island comprise valleys along the water courses and elevated plateaus between the mountains. The soil of the valleys consists of the deposits left by the river overflows; and that on the plateaus is largely made from ashes and dust thrown out from the craters of the adjacent volcanoes. The soil is loose, fertile, light, and easily cultivated. It contains large properties of vegetable nourishment and yields bountiful crops. Grain grows as luxuriantly on the plains as in the valley meadows.

The regularity of the seasons on the islands, and their bountiful rain supply, give regularity to crop productions. The absence of large rivers and destructive overflows, exemption from drouths and severe Winter freezes, preserve the harvests. The rains fall in the Winter, and the grain shocked in the fields is not damaged by wet weather. As the sun rays pour down their mellow warmth continually through the ripening season, the grain is well developed, superior in quality, and large in body. The islands have become a famous wheat country, and their soil produces more grain per acre than any of the Australasian Colonies. They indeed surpass England, where farming is conducted on exact scientific principles and a high system of fertilization, in the yield of wheat.

An examination by Australian agricultural experts into the reasons for the excessive grain production in New Zealand, after visitations to various provinces and the collection and analysis of the different soils, established the climate, the action of proper proportions of heat and moisture as the cause of the superiority in the grain, and the vast quantities grown, and not the excessive richness of the land over other Australasian soils. The great chemical laboratory of nature is working with such harmony of conditions, and with such exact proportions of elements, as to produce from its resources the greatest and best possible vegetable results.

The Climatic Bureau of New Zealand, the distribution of rains, and the effect of solar heat, and not the depth or superiority of the land, has therefore claimed the honor of bestowing on the islands the palm of the best and most prolific grain-yielding region in the world. The superior size and character of the New Zealand wheat over other Australasian grain, attributed to the causes previously mentioned, give it not only reputation and demand abroad, but higher prices.

The flour of New Zealand is considered the best exported from the antipodes, and commands ready sale and fancy rates. The wheat has such splendid body, is so well matured, harvested in such good condition, and the absence of Summer rains allowing it to be thrashed and housed dry and clean, that the grain is easily distinguished from the products of damp and showery climates.

Although the soil is virgin, the New Zealanders do not rob it of its properties by excessive culture, but seek to replace yearly the elements extracted by crop returns. The application of bone dust and guano to the lands keep up their standard degree of quality. A change of crops and occassional rest to the ground preserves the grade of its producing powers.

Various varieties of wheat are grown to perfection on the islands. The most noted and popular is the Sharman wheat. It is a bearded grain, and is never blighted by rust or smut. The heads are well filled with grains, and are usually three inches long. The Tuscan variety is popular for Spring sowing, and produces a good yield. The Velvet variety is sown for the Winter crop, and is admirably adapted to the Zealandian soil and climate.

The great plains of Canterbury, Otago, and Southland, stretching their green bosoms from Cook's Strait to the end of South Island, are dotted with innumerable farms, like squares on a mammoth checker board, extending an unbroken chain of ranches for hundreds of miles along the ocean. Many of the grain ranchers are small farmers and hold limited homesteads; but here and there are landed estates of princely dimensions, harvesting thousands of acres and employing hundreds of hands. The dwellings on the little ranches are English wooden villas, but the country seats of the large and opulent ranchers are more stately and pretentious, usually with a grove of trees and an orchard surrounding the yards.

A number of English syndicates have invested in property and hold lands in large bodies. The stockholders live in Great Britain, and the estates are supervised by managers and sub-overseers. Some of the farms on North Island contain 50,000 and 60,000 acres. On South Island a number of large land companies are also operated in the different provinces, and agriculture is conducted on a large scale.

The plains are thickly settled by a thrifty people, and its agricultural and commercial condition is prosperous. The roads are good, and fruit trees and flower gardens are found at every country cottage. The farms are laid out into squares, and the fields are inclosed with hedges. The grain grows luxuriantly, and the redundant masses of verdure on the great wheat fields covering the plains resemble the pampa of Brazil. Visitors wonder at the dense masses of greenery on the fields and are amazed at the prodigious production of grain on such a thin depth of soil.

This island yields the finest quality of wheat grown in the Colony. It also produces the greatest amount per acre. In Otago and Canterbury many of the farms grow 50 bushels of wheat per acre, and some of the favored ranches yield 65 bushels per acre. The highest product on the best ranches has been 75 bushels per acre.

The Winter wheat is sown in the months of May and June and harvested in December and January. Christmas in New Zealand comes in the harvest season, and a Summer's sun takes all the icicles from the beard and melts all the frost on the reindeers of Santa Claus. While the bells of sleighs jingle in the air, lakes frozen over and the rivers fettered with ice, and the hills white with snow in our country, the rattle of cradle and the song of the reapers are heard on the harvest fields of New Zealand. The big yellow moon is seen over the ocean in the north, and a change of location as well as of seasons is experienced.

The machinery employed in sowing the wheat, as well as that used in gathering and thrashing the grain, is largely of American manufacture. The New Zealanders being a progressive people were ready to admit the labor-saving machinery of their Yankee cousins, and a large body of their reapers, binders, thrashers, and cultivators are shipped direct from the American factories to the Zealandian ports. Some of the large ranches import $35,000 worth of machinery yearly. The manufacturers in the United States, having found an extensive market in the Colony for their goods, have established resident agents there for the sale of their wares.

The importation of American farming machinery in the Colony in 1882 was $150,000, and in 1883, $160,000 in value. In 1889 the importation of American farming implements and machinery was $223,300. The use and aid of the machinery has added to the profits of the crops, economized labor, extended the area of cultivation, and enlarged the total production of grain.

The domain in wheat culture has been yearly increasing, and the Colony will continue to advance its grain exportation. The highest total average of wheat production on the islands has been 31 bushels per acre. The average production is 27 bushels per acre.

The area of land under cultivation on the islands is 1,500,000 acres. Four hundred thousand acres are in wheat culture; 350,000 acres in oats; 29,000 in barley; 21,000 in hay, and 600,000 in miscellaneous crops.

The average yield has been 33 bushels of oats per acre, and five tons of potatoes to the acre. The oats, like the New Zealand wheat, is of extra quality and weight, and brings more in the foreign markets than any of the oats from the antipodes. The oats average 40 to 49 pounds per bushel. The average of barley has been 26½ bushels per acre, and hay one and a quarter tons.

There are 50,000 people on the islands engaged in agriculture, and the number is yearly increased by immigration. The remuneration to labor is good. Ordinary farm hands get $5 and $7 per week and board. The harvest and team hands receive from $9 to $14 per week with board.

Mills have been erected and the manufacture of a proportion of the surplus wheat into flour is undertaken. The popularity of the flour has been established, and a foreign demand created.

The following table will show the annual amounts and fluctuations—according to the demands and conditions of the distant markets—of the flour exports from the islands for a series of years:

Year.	Quantity, tons.	Value, dollars.
1873	930	57,000
1874	2,200	131,000
1875	637	37,000
1876	700	34,000
1877	975	69,000
1878	4,000	253,000
1879	1,200	65,000
1880	550	29,000
1881	3,300	168,000
1882	11,000	575,000

The wheat product in 1882 was 8,300,000 bushels; value, $2,348,840. The crop of 1883 reached 10,300,000 bushels, placing the islands in the lead of all the wheat-producing colonies in the Australias. The product of oats is 13,600,000 bushels yearly. The value of the total exports of grain from the colony is $6,244,330 annually.

The grain is shipped from the Zealandian ports to England by sailing vessels. The want of inventive genius among the New Zealanders is seen in the absence of the well-appointed grain elevators found at Newport News, Norfolk, Chicago, New York, San Francisco, and other American shipping marts. The loading of grain ships is primitive in style; but the colonists will doubtless soon adopt the improved modern methods and economize their time and labor. They have not yet introduced that care and discrimination in the exportation of their grain which they have exercised in the classification in the shipments of their wool and meats. The grain is sold by weight and shipped in sacks of four bushels each. Sixty pounds per bushel is allowed to wheat, and 50 pounds to barley. As the colony is the banner wheat country of the South Seas, its shipping facilities will, no doubt, advance to keep pace with its reputation and progress as a grain producer.

Oregon truck farmers at present are suffering from the nimble squirrels. The animals are eating up the watermelons in the eastern section of that State.

Green Lion Pavement.

GREEN Lion Pavemant is the name of one of the streets in the great manufacturing town of Melchester. It is not an imposing thoroughfare; it is narrow, badly lighted, undeniably dirty; indeed, not to put too fine a point upon it, even to the casual observer it unavoidably suggests the slum.

Unattractive as it is, there are yet better times to see it than on a rainy night, for then Green Lion Pavement is at its worst. Light from the street lamps outside the public houses, which guard each end of the court, flickers waveringly, and is reflected in the pools collected in the hollows of an uneven pavement. Its rays, as far as they reach, show how wet and greasy the flagstones are, and reveal untempting heaps of cabbage leaves, sodden and trampled upon, which lie around most of the doorsteps. Men with their hands in their pockets, and their collars turned up about their ears, lounge about in the immediate vicinity of the public houses smoking and spitting. Every now and then the swinging door of one or the other of the gin palaces is thrown open, as some one goes in or comes out—more often goes in—and then a broader stream of light reveals the squalor of the street. It shows those dark, scarcely distinguishable objects against the wall to be women sitting on the doorsteps, their shawls huddled over their heads, and drawn closely around their shoulders. The children play at their feet, quite indifferent to the drizzling rain. Some of them crawl along the greasy pavement with evident delight—it is impossible to spoil their clothes—others turn a much-knotted and ancient rope, skipping wildly, while they shout and scream at one another with shrill voices. A barrel organ begins to play at the other end of the court, perhaps, and the rope is thrown down instantly. The children take hands in couples, and began to dance gravely and with considerable grace, in spite of their large dilapidated boots. Such quaint little figures! Their hats, when they have any, battered down on to their heads till there is hardly any face visible, their hair draggled and hanging in rats' tails from the rain. Most of the children in Green Lion Pavement have at some time or other danced in the Melchester pantomime, hence the elaborate steps and the graceful postures. Two or three men presently stroll up the street and look on, their pipes in their mouths, except when they remove them for a moment to laugh or to utter some forcible comment on the performance.

But this *al fresco* dancing is not the only entertainment of the kind which goes on in court, or, at any rate, in the immediate vicinity. At first sight the neighborhood does not suggest that its inhabitants are in the habit of giving dances, for instance, yet it is nevertheless a fact that a real dance takes place very frequently in one of its dilapidated houses—a house, moreover, in which the members of a flourishing club for factory boys and girls meet every evening.

On one of the evenings dedicated to this before-mentioned festivity a young man came quickly up the street. It was early in the year and a detestable night. Sleet was falling, the pavement was slippery with black half-frozen snow, and Green Lion Pavement presented about as uninviting an appearance as was well possible. The young fellow shivered, rubbed his red hands together, and dragged at his thin coat, to wrap it more closely around him as he walked. At an open door he stopped and entered a square stone lobby, lighted by a wire-protected gas lamp. Sounds of revelry were audible from the passage in which the young man, whose name was Figson, stood, stamping the mud off his boots.

Figson was, or had been, an important member of the club in its early days. Indeed, as he was wont to remark, "There 'ad bin a toime w'en 'e 'ad ran the Green Lion;" and there was no denying that it was chiefly owing to his energetic efforts that the club had been started. It was he who had looked up eager would-be members, confirmed the inclination of the wavering, elected himself President, and prepared an elaborate code of rules for the guidance of the faithful.

Everything, in fact, was in readiness for the opening of the club, with the rather important exception of a room in which to assemble. But even this difficulty was overcome, and in a manner perhaps not entirely unforseen by Figson, who, some months previously, had made the acquaintance of a gentleman of philanthropic disposition, providentially supplemented by means, who occasionally visited the factory in which the young man worked. Once having discovered the existence of this rarest of combinations, Figson did not neglect his opportunities, with the result that rooms on the ground floor in one of the houses in Green Lion Pavement were presently presented to the members, rent free, subject only to a condition as to proper supervision of the meetings.

Since then, however, as Figson sometimes tersely remarked, "toimes 'ad changed a bit." The club was no longer, as in the good old days, devoted exclusively to the improvement of the mind. Frivolity had crept in. This happened when the membership was foolishly extended to girls, Figson declared, darkly. And to make things worse, his old-time comrades had fallen from grace, and, what was in reality the same thing, their allegiance, and now boldly declared that "dancin' was better than 'Lors of 'Elth' enny d'y."

This evening he smiled superciliously as the strains of "Ta-ra-ra Boom-de-ay" reached his ears.

"Saime old toon!" he remarked aloud, ringing the bell.

There was a scuffle within, and the door was opened by a younger boy.

"'Ullo, Bill, 'ow are yer?" exclaimed the youth, conventionally.

The salutation was not used at all in a personal sense, as Figson well understood. It was merely a quotation from a current music-hall song. All the boys said it—frequently. It didn't mean anything, though it was expressed in a tone of loud and boisterous heartiness. But that was how the singer delivered it, and without the right inflection the mimicry would have been incomplete.

"'Ow's yerself, Joe?" returned Figson, tripping up Joe affectionately as he pushed open a second door. The room he entered was a fairly large one, with a bare boarded floor, and many chairs stacked up against the walls. At the further end a half-opened swing door afforded a glimpse of a passage and rooms beyond. Close to this door was a piano, at which a lady was seated playing a polka—the before-mentioned "Ta-ra-ra Boom-de-ay"—with much vigor and animation. The room was full of boys and girls, between the ages of 15 and 21, perhaps, and they were nearly all dancing.

Most of the girls wore ulsters, which they had unbuttoned, and as they danced these garments floated out on either side of them like dusky wings, if wings garnished with heavy buttons can by any possibility be conceived. They had not removed their hats, which were very towering, as a rule, and in most cases ornamented with perfectly straight feathers. The unfastened ulsters afforded a glimpse every now and then of large yellow or heliotrope bows of chiffon, more or less crumpled, which some of the girls wore pinned at the neck.

Most of the boys were very shabby, some even a little ragged, though, as a rule, their clothes were patched.

There was a great deal of noise, partly owing to an unsophisticated habit possessed by both sexes of carrying on conversation at the top of their voices and partly by the fact that none of the dancers wore shoes. Hobnailed boots do make a considerable noise on bare boards, especially when their wearers dance with more vigor than grace.

As Figson entered, some of the girls nodded and two or three of the boys shouted Joe's salutation of "'Ow are yer?" but otherwise there was little formal greeting.

Joe had returned to his partner, a round-faced youth of about his own age, for Joe despised "gurls." The two boys charged madly down the room, chanting "Ta-ra-ra-Boom-de-ay" with wild cries and scattering the more orderly couples right and left. The lady at the piano left off playing to remonstrate.

"Shut up, can't yer!" shouted the boys.

"Joe Wright oughtn't ter belong to the club at all, kickin' up such a row!" exclaimed one of the girls angrily.

"Jolly sight more of a ornament to it than all the lot of you stoopid girls put together," retorted Wright. "Come on, Jack! let's 'ook it, and 'ave a go at fencin'!"

The boys made a dash at the swing door and disappeared into the darkness beyond, Joe yelling something about "sellin' up the dear old 'ome, and parting with a few old sticks," breaking off the melody before he let the door bang, however, to shout in a tone of withering scorn: "Gurls!—ugh!—I 'ate the lot!"

Figson meanwhile stood leaning against the wall, his hands in his pockets.

There were several partnerless girls sitting round the room, but Figson was "not much of a toff at dancin'," as he himself expressed it. Indeed, though he regarded the pastime tolerantly, it was with more than a dash of contempt. "Foolin' of that sort" was all very well for ignorant chaps who didn't think at all, but it was a little beneath the dignity of a man who sometimes went to lectures at the Hall of Progress, who had leanings toward Anarchism, and who occasionally expended a penny on a publication known as the *Atheistic, Communistic, Anarchistic Scorcher*. In spite of the listless and rather elaborately blase expression with which Figson, as usual, regarded the frivolous scene, it was not assumed until he had looked sharply round the room in search of some one, that some one being a girl.

Having assured himself that she was there and not dancing, he presently turned his back indifferently on the madding crowd and began to study a notice board which hung on the wall just inside the door.

The notice board afforded much information about the club. It announced that the fee for members was sixpence a month, mentioned various classes for arithmetic, wood carving, part singing, etc., which had been formed, and gave the names of ladies and gentlemen who were at the head of affairs on the different evenings, as well as other items of general information.

Figson had time to read a notice of the next meeting of the Green Lion football team, a list of members who were gently reminded that their subscriptions

would be thankfully received, and an announcement of a Sunday concert before the music stopped.

The polka was over, but hardly a moment's interval was allowed before a spruce young man, with hair neatly parted in the middle and brushed up stiffly on each side, shouted: "Taike your partners for the lancers, please." This exhortation was followed by a considerable uproar.

Joe Wright and his companion re-entered the dancing-room with a rush.

"Lancers? I'm there!" shouted Joe. "Jine," beckoning in a lordly fashion to one of the girls, "engaiged for lancers? Come on then; we'll 'ave tops. Clear out there, 'Arry! Taike yer laidy somewheres else; Jine and I are tops!"

"Stop that step dancing, Joe!" called the distracted M. C., as Joe indulged in a double shuffle of a seemingly dangerous description, dodging round the shrinking and loudly-protesting "Jine" with an agility which baffles description.

"Now, Ma'am, please!" when something like order was at length restored, and the music struck up once more.

The girl Figson had looked for on his entrance into the room was now leaning against the wall at some little distance from him, elaborately gazing at nothing.

"Look 'ere at this notice, Liz," observed Bill, putting a finger at random on one of the papers pinned to the board.

"W'ere?" said the girl, advancing with a great show of interest.

"I'll wite outside. Slip out in a minute," he whispered, under cover of the noise and confusion of the lancers.

"'Ullo, Liz! Not goin', are yer?" called one of the girls as she waltzed back to her place.

"Only ter git a drink of water," replied Liz, closing the door after her.

Figson stood in the little passage leading to the reading-room, leaning up against a cupboard. When the door was shut, he promptly put his arm round the girl's waist and kissed her.

"Doan't!" said Liz, perfunctorily, but without moving.

"I shall," said Figson, doing it again. "Look 'ere, my disy," he observed after a moment, "I want ter 'ave a talk with you."

"Talk aw'y," answered Liz, who was sitting on a high stool, swinging her feet.

She was a pretty girl of, perhaps, 18. There was about her and air of considerable refinement, and her barbarous accent struck one immediately with its incongruity. She was neatly dressed, with a not wholly unsuccessful attempt at fashion, though the materials of which her things were made were poor and undurable. Her hair curled very prettily under her close-fitting hat. Her eyes were deeply blue, and fringed with long lashes. Her color was fresher than that of most girls who work all day in factories.

Figson looked at her admiringly.

"Yo're a real disy!" he exclaimed.

"Git along with yer!" she returned, giving him a push. "Is that all yer was goin' to s'y?"

"No; but it's true all the saime," said Figson, gallantly. "Liz, I want ter know when yo're goin' to naime the d'y,"

Liz shot a hasty glance at him from under her eyelashes, and began playing nervously with the end of her scarf.

"W'y—w'ere's the money to come from?" she asked, hesitatingly.

"Never you moind the brass," returned Figson, loftily. "That's all roight. Not but wot I'm workin' for nothink, so ter speak, and always shall till the roight men git at the 'ead of Government," he added, darkly, relapsing into his usual air of Byronic gloom. "Still"—emerging from it a moment—"I've got a roise, Liz, an' I don't see no use in witin', so let's settle it an' git spliced as soon as ever we kin. When's it to be, eh?"

He put an arm around the girl's shoulder and looked down at her affectionately.

"Oh, Bill! I—can't s'y—not jest yit," she replied, raising her distressed blue eyes. "Father, yer know—'e's ag'inst it, since 'e's been and got saived. Only ter-d'y 'e said 'e wasn't goin' to 'ave no bloomin' hanarchis' an' hinfidels in 'is family."

The girl repeated the parental objurgation quite gravely in a troubled tone. Her lover retreated a few steps, leaned against the cupboard, folded his arms, and looked darkly at Liz from under frowning brows.

The girl glanced at him and broke into an involuntary laugh, though her lips were trembling and there were tears in her eyes. "You—you look like the young forger chap at the 'Star'!" she cried, here voice shaken between laughter and tears.

Figson flushed and let his arms drop at his sides.

"Look 'ere!" he said, angrily, "none of this bloomin' nonsense. I s'ose yo're thinkin' of takin' the bonnet yerself, then, are yer? It'll soot yer nicely!" he added, sarcastically.

"Not me!" replied Liz, hotly. "I don't 'old with screechin' and 'ollerin'—never did. An' no more won't father after a bit, Bill," she added, coaxingly. "'E's been everythink, yer know—Methody an' Plymouth Brethren an' Roman Catholic—an' now 'e's jined the harmy for a bit. But it won't last," she said, hopefully; "'e,ll soon get tired of 'ollerin', an' then, like as not, 'e'll give yo're religion a turn, Bill; 'e's been everythink else. Then when 'e does 'e'll give 'is consent, an' we'll be married afore 'e jines somethin' else, and then 'e can't 'inder us. Do let's wite a bit."

She spoke pleadingly, but Figson still continued to regard her with disfavor.

"Jine my religi'n!" he repeated, scornfully, "I'm a freethinker. I thought yer knowed that."

"Well, father's not partickler," returned Liz, innocently. "One religi'n's as good as another to 'im—just for the toime. Only, Bill—I don't wan't to get married without 'e's willin'. Moother wouldn't 'ave liked it," she added softly.

"Stuff an' nonesense!" exclaimed Bill, abandoning the "Star" manner of polished villainy for one of more vulgar anger. "Think yo're goin' to come that story over me, do yer, me disy? Yo're plyin' fast an' loose with me, that's what yo're doin'—and I won't stand it! Go an' try that on with 'Arry Carpenter," he added, sneeringly; "p'e'aps 'e'll put up with it. I won't. Not me!" he repeated, drawing himself up and inflating his chest.

The dancers within were doing the grand chain.

"Chine!" shouted 'Arry Carpenter, the M. C., and there was a general scuffle, shouts, and laughter.

"W'ere did you git that 'at, where did you git that tile?" they sang as the music turned off into that popular refrain. Liz had got down from the high stool. Her face was pale and her eyes very bright.

"I'll trouble you to let me pass, Mr. Figson," she said, holding her head erect. She paused with her hand on the door handle. "Go an' talk like that to Raose Young," she said over her shoulder; "p'r'aps she'll stand it, but I won't. Not me!" And she threw open the door.

The dance was over for the evening. A few of the boys had begun to prepare the room for a wood-carving class, while most of the company sought fresh fields in the reading room, where it was announced a concert would be held at 9 p. m.

Here the boys and girls took their seats with scraping of forms and chairs, laughing, a little amateur step-dancing, and much loud conversation.

Figson was one of the first to take his place in the front row. The chair next him he kept vacant—not for Liz, presumably, for she was already seated beside 'Arry Carpenter, and was evidently in high spirits, for she laughed a great deal; and so did 'Arry, who remarked in audible tones that she was a "reg'lar cure." At this moment a girl, a late comer, appeared in the doorway, where she stood a moment, looking around for a seat.

"Ah ha!" cried Figson, with well-rendered dramatic rapture. "My Raose! my pretty Raose! My Raose without a thorn! Come 'ere!" and he thumped the chair next to him vigorously.

Rose hesitated, glanced at Liz, blushed, and went like a lamb to the seat he indicated.

It was really a high honor to be singled out by Figson. There was something very fascinating about Figson. His air of superiority and gloom was impressive, and when he did unbend his graciousness was extreme, but Rose had rarely been favored with such an instance of his condescension as to-night. He was an awfully clever chap—all the girls owned that. The words he used were vaguely grand in their length and mystery, as when, for instance, he looked on while they danced, and remarked that he liked to watch the "exooberance of their spirits." Or when he found fault with a lecturer for mentioning Christianity on the ground that it was only "paganism in another form." The girls looked on and listened with deep and uncomprehending interest, wondered how he did it, and marveled that Liz "'ad the cheek to talk to 'im."

Liz was not talking to him to-night, however. She was devoting herself to 'Arry Carpenter, who beamed complacently, and, much to her surprise, Rose found herself overwhelmed with attention from Figson, who even went so far as to whisper that she was a "disy, as well as a raose." This flattering remark was conveyed during the chorus to "Knocked 'em in the Old Kent Road," which was being sung enthusiastically to an accompaniment of shuffling and stamping feet.

The Chairman, a tall, red-cheeked youth in a brown-knitted Jersey, then rose and amid cries of "Order!" observed that he would "now trouble Mr. Smith to oblidge with 'Ave Yer 'Air Cut.'"

The blushing Mr. Smith was preparing to rise and render this classical ditty with his usual vivacity when the irrepressible Joe broke in with:

"Look 'ere, Reeve, why don't yer ask the laidy to oblidge with a recitation or somethink?"

Joe had been glancing uneasily at this lady ever since the entertainment began. In spite of his avowed contempt for the fair sex—a not uncommon symptom in those suffering from youth—Joe had a delicate sense of eternal fitness of things. It was not seemly, he felt, thus to leave her out in the cold. Hence his somewhat indignant protest.

The "laidy" (a Mrs. Graham, who generally visited the club on Friday evenings) was about to protest her inability to "oblidge" at a moment's notice, when the Chairman slowly rose, and with the tips of his fingers extended on the table in front of him, bent over it gradually, fixing the interfering Joe with his eye in a vain effort to overawe that gentleman.

"Wot I want ter know," he remarked, with scathing deliberateness, "is—ham I Chairman, or ham I not?"

"Go it, Reeve!" shouted some.

"Stick to it, Joe!" yelled others.

"Then," continued Reeve, artfully assuming an affirmative answer, "you moind yo're business and I'll moind mine."

"Sich," said Figson to Rose, wearily, "sich are the disputes of hignorance."

"Yes. Joe oughter keep 's tongue to 'isself," assented Rose, relevantly.

"If there's one thing I 'ate," remarked a clear voice behind, "it's a conceited, stuck-up sorter chap. Don't you, 'Arry?"

Figson writhed.

By this time the commotion caused by the quarrel between Joe and the Chairman had somewhat quieted. A boy had struck an attitude, and was beginning to give "The Wreck of the Princess Alice," when the clamor began afresh.

"'Ere's Dobbs." "The Reverend Dobbs." "Now, Mr. Dobbs will oblidge, p'r'aps, with one of 'is little 'ims." "Come up, Dobbs." "Where's yer Bible, Dobbs?" "Don't s'y you've forgot it."

The unfortunate Dobbs came up stairs with a sickly smile. He was a thin, sallow-faced young man, with weak eyes and a piece of blue ribbon in his buttonhole. He belonged to the "Young Men's Christian Association," and in a rash moment had tried to induce some of the other boys to join him.

"Good evening, Mrs. Graham," he began, ceremoniously shaking hands.

"The Wreck of the Princess Alice" was in full swing now, and Dobbs had ceased to be an object of attention.

"I meant to tell you, and then it slipped my memory," he continued, patronizingly, "that I was quite interested in your lecture on physiology the other evening. Most instructive, I'm sure. If I can find time, I'll come in to them sometimes," he added, magnanimously.

The lady smiled. "I'm flattered," she began.

"Not at all—don't mention it," returned Dobbs, waving his hand loftily.

Dobbs took great pains with his accent. He used to read aloud out of the "Young Man's Constant Companion" every night, and correct his own mistakes, but carefully, so as not to hurt his own feelings by seeming to acknowledge that he ever made any.

"Well, good night, Mrs. Graham, I thought I would just step up and mention that I liked the lecture while I thought of it."

He smiled with an indescribable air of patronage, shook hands again condescendingly, and vanished just as the reciter sat down amid applause. Not a moment too soon, for Joe followed him half way down stairs, begging for "jest one 'im before we part," and the others seemed more than half inclined to insist upon the performance.

At 10 o'clock the entertainment was over, and the club closed for the evening' Figson staid talking to Rose at the door until Liz and her swain appeared.

"Good night, Raose," said Liz, affably, as she passed. "Wot a dull evenin' you must 'ave 'ad! I pity yer! Come on, 'Arry! You can see me to the bottom of the street if yer loike."

The months passed, and the little rift within the lute grew wider and ever wider.

Figson and Liz now met two or three evenings a week at the clubrooms without the slightest recognition on either side.

Liz conversed much and boisterously with all the other boys, and occasionally bestowed special marks of favor on 'Arry Carpenter, but only when Figson was within earshot. At other times she avoided him, and was even heard to remark to one of her girl friends, in a moment of petulance, that "if there was one thing more'n another she couldn't abide, it was a gapin', blushin' idjut like 'Arry Carpenter." If imitation is the sincerest form of flattery, Liz ought to have had every reason to be gratified at the conduct of Figson, whose increasing affability was remarked by all the girls, though he occasionally singled out Rose Young as the special recipient of his compliments, which were always of an appropriately flowery nature.

The estrangement between Bill and Liz attracted, on the whole, very little notice in the club, however. It was the commonest thing in the world for a girl to drop the "young chap" she had been keeping company with in favor of another at a moment's notice, and no one suspected that Liz and Bill were really "sweet-'earts" and had contemplated matrimony. For, in spite of various peculiarities in speech and behavior, slightly disconcerting to people whose ideas of girls are gained from the young ladies one usually meets in drawing-rooms, Liz was a very womanly little woman, and therefore shy of talking about her deeper feelings. She had no very intimate friends among the girls at the club, to whom she had always spoken of Bill Figson with a studied indifference, well calculated to upset any speculations as to the earnest nature of her "company keeping."

As time passed, Liz's health and temper began to suffer from the continual strain of meeting her lover under the trying circumstances of her own partial creation.

She never sought any conversation which might lead to a reconciliation.

"I'd sooner die fust!" she told herself fiercely, the tears springing to her eyes. "It was 'is fault; if 'e was to come to me and s'y 'e was sorry, I'd forgive 'im. Oh, Bill! w'y don't yer come!" she used to cry at night, lying wide awake, poor child, the tears runnin' down her cheeks.

But at the club no one know what "'ad come over Liz," who used to be such a lively girl. She was nearly always fretful and cross now.

"W'y don't yer tike off yer 'at, Liz?" asked one of them, one warm evening at the end of May.

"'Ow ken I tike off me 'at w'en me 'air's so barbarious?" replied Liz, pettishly. "I don't want ter dance no more, I'm going to see ter the books," she added, pushing open the door as she spoke. "Yer needn't come—I don't want yer."

"There's a cross patch," remarked Rose, laughing.

"Shut up. She's ill, I tell yer," said another girl, charitably, as she opened one of the windows. "My, 'ow stuffy it is 'ere! An' it's worse in the plice w'ere she works all d'y. No wonder she's took bad; that's w'at I s'y."

The reading room was empty, and Liz dragged up a chair in front of the bookcase. She was librarian, and there were several new books that required numbering and entering in the library catalog.

She worked slowly, and while she worked her thoughts were busy. Her heart was very heavy, and she was possessed by an overwhelming anxiety.

Bill had not been to the club all the month, and she had heard no news of him.

Pride forbade her to go and inquire for him at his home, and though she had listened eagerly for the chance mention of his name, none of the club members had spoken of him.

No one worked in the same factory as Figson, and as he was not particularly popular, it seemed that his absence created no surprise and called for no remark.

"Even that gurl—that creature—Raose, 'asn't once ast about 'im," thought Liz, bitterly. "She's took up with Jack Reeve now"——

"W'at shall I do? 'Ow ken I find out?" was her next despairing reflection.

In the next room the meeting was being dissolved. She could hear "good night's" being exchanged, and Mrs. Graham's voice urging the stragglers to depart.

She (Mrs. Graham) came into the passage presently to put on her bonnet, and gave Liz permission to stay a little longer and finish the books. Then she went. Liz heard her opening and shutting the outside door several times, as though there was something wrong with the lock, which had apparently yielded to treatment, for presently there was silence.

The books did not take long to do, but when they were finished the girl did not stir. It was not very cheerful there, but Liz was too miserable to care for surroundings; besides, it would be worse at home. Her father would be out, she knew; he was always out at some meeting or other.

"Jest wot I told 'im," she sighed; "'e's come round to Bill's religi'n, an' if 'e'd only wited"——

There was a noise outside which made her start.

Then she heard Joe Wright's voice.

"Mrs. Graham couldn't 'ave shut the door after all," Liz thought, idly.

"'Ullo, door's open after toime!" exclaimed Joe's piercing voice. "Let's come in an' 'ave another go at that fencin', Jack."

Liz heard the boys ferreting about in the cupboard for the fencing sticks, and then Jack apparently noticed the light in the inner room.

"'Oo's there?" he shouted; but Liz made no answer. She didn't want to have to talk.

"Oh! I expec' the woman wot cleans up left the gas on—that's why the door was open," explained Joe. "Come on, don't waist so much time, you bloomin' young"——

The end of the sentence was lost amid the clash of sticks, and for a moment or two there was no other sound except when Joe apostrophized his pupil in terms more forcible than polite.

"There, that 'ull do for a minute, an' nex' toime you w'ack me over the shins agine—I'll mention it to yer," cried Joe at last.

The boys lapsed into friendly converse. Jack sitting on the table, Joe struggling with the intricacies of the new pantomime step he was practicing.

"Wot's come to Figson?" asked Jack at last; "'e's begun to taike fencin' lessons."

Liz started, and crept to the door, her heart beating painfully.

"Dunno," replied Joe, walking nimbly on his heels before the final flourish. "I b'leeve 'e's gorn aw'y."

Liz grasped the chair back against which she was leaning and turned pale.

"Gone aw'y—where?" inquired Jack.

"Dunno—'e was talkin' of jinin' them dynamite chaps abroad, somewheres. You know the kind I mean. Blowin'-up chaps—bombshells—all sorts a' larks loike that," explained Joe, lucidly, illustrating his meaning by making a hissing sound like a rocket before it bursts, waving his arms heavenward, and then falling heavily to the ground and doing the groans of the wounded with great realistic force.

"'E'll git 'isself blowed up if 'e don't look out," was Jack's cheerful comment. "Wot's 'is gaime?"

"Dunno," returned Joe, indifferently. "I b'leeve 'is gurl drove 'im to it; 'e said as much to me."

"W'ich gurl?" asked Jack. "Raose Young?"

Raose Young be blowed," returned Joe, politely; "'e told me 'e reg'lar 'ated that gurl, she was such a sorft. No. Liz Turner."

Liz felt as though she were being choked. Her heart seemed to stand still, while she listened breathlessly.

"Sarve 'im roight for bein' sich a fool as ter worrit 'imself about any gurl," continued Joe, scornfully. "They're all aloike, ev'ry one of 'em. All donkeys."

"Some fellers seem ter like 'em," observed Jack, thoughtfully. "Never could see w'y though."

"'Cos they're fools," was Joe's comprehensive reply. "Look 'ere, Jack," he continued, listening apprehensively; "I think we'd better 'ook it. The Guv'nor 'ull kick up a noice row if we're found 'ere after hours. You should a' seen 'im last toime 'e come in 'ere an' caught me! Foamed at the mouth 'e did!"

"Come on, let's bunk!"

The outside door banged noisily, and Liz was once more left alone.

She crept to her chair, sank down in it, and flung out her arms across the table. Presently she put her head down upon them and burst into tears. This, then, was the end of their foolish quarrel! Bill was gone. He would be blown up—she knew that he was wont to talk vaguely about the blessings of dynamite—but now he belonged to the "blowin'-up chaps"—and he would be killed! She recalled Joe's hollow groans and shivered, seeing in imagination Bill bleeding—dying—stretched out at her feet. She was a murderess! She had driven him to it! He had said so!

The girl wrung her hands and sobbed. She was so overcome with her grief that she had not heard the sound of a key turning in the lock outside, and she started violently at the sound of a footstep along the passage.

Before she had time to turn around and hide her tear-stained face Mrs. Graham was in the room.

"I came back for my umbrella," she began. Then—"Why, Lizzie, what is it?" she exclaimed, alarmed at the misery in the girl's face.

"Nothink!—nothink!" protested Liz wildly; but in a few moments she was sobbing out the whole story.

"An' if Bill only wited, as I ast 'im to," she wailed, "it would all 'ave come jest as I told 'im. Father, 'e's tired of the harmy, and now 'e's jined the hatheist religion, an' only yesterday 'e said Bill Figson 'ad got some sense, 'an wouldn't stand no 'umbug—an' now—an' now"—she sobbed again.

"I think it most unlikely that Figson has gone away," Mrs. Graham said, soothingly, "but I'll find out all about it—oh, quietly—you needn't be afraid, Lizzie," as the girl raised her head to protest.

"Now, stay here a little while, till you feel fit to go home," she concluded, turning to smile at the girl as she closed the door.

As she went out she almost ran against someone in the narrow passage leading to the street.

In the semi-darkness she did not notice who it was till an exclamation of "Beg pardon, mum!" made her start.

"Figson!" she cried.

"Yes, mum."

"Oh! I—some one told me you had gone away."

"Not yet, mum," replied Figson, gloomily; "there's no knowing wot I *may* be drove to," he added, darkly.

They were standing under the gas lamp now, and Mrs. Graham saw that his arm was in a sling and that he looked ill.

"Why haven't you been here lately? You have hurt yourself?" she asked quickly.

"'Ad me arm broke in the Park on M'y D'y. Got into a bit of a crowd," replied Figson, laconically. "I've only jest come out of the 'orspital."

"I'm so sorry"——

"Ken I go in a minute an' get a few traps that belongs to me?" asked Bill; "I ain't a-goin' ter belong to the club any more, mum. An', mebbe, I'm a-goin' to leave the country."

Figson evidently wanted to be asked questions, but he was disappointed, for Mrs. Graham made no comment on this startling news; instead, she stood a moment without giving the required permission.

It was, of course, strictly against the rules that the boys and girls of the club should ever meet there without supervision, yet Mrs. Graham, after a moment's hesitation, said:

"Yes, go in, Figson; and, by the way, I think there's something belonging to you in the library."

"Thank you, mum," said Bill and opened the door.

Mrs. Graham did not leave the precincts of the club; instead, she mounted a few of the stone steps leading from the passage, and waited on a landing which was screened from view from below.

She stood there patiently for some time, but Figson did not reappear.

It was not till she had repeatedly called up before her Liz's tear-stained face and Bill's helpless arm, and assured herself several times that under such favorable conditions all must go well, that she heard the welcome sound of footsteps.

The door was opened, and Liz and Bill stood on the threshold, and Bill had an arm around Liz's waist.

The girl's face was radiant and her eyes were shining.

"An' there's some noice flats, I've 'eard tell, on the other side of the river," Figson was saying. "We'll go over Sunday an' look at 'em, shall we?"

"Oh, Bill!" cried Liz, clasping his arm with both hands, "you'll never know wot I've gone through along of you."

Bill kissed her.

"You bet I *shall!*" he said. "You can't 'ave 'ad the 'ump as bad as I 'ave! so now, me disy."

"Wot a good job Mrs. Graham told me to go hin," he added.

"Mrs. Graham told yer?" exclaimed Liz.

"Yes, she said as how there was somethink of mine in the lib'ry. I forgot to look," said Figson, obtusely.

"Naow yer didn't," replied Liz, shyly, flushing. "Bill, Mrs. Graham must a' done it a-purpose!"

"Well, an' if she did," observed Bill, stretching up to put out the light overhead, "I dares'y it's the sensiblest thing she ever done in 'er loife."

The lady upstairs smiled a little sadly.

"An', Bill, you won't be a what yer call um, a Hanar—dynamite chap any more, will yer?"

"No; I think a Soshul Demercrat's more my ticket," said Figson, indifferently. It must be owned that, in the midst of his happiness, Figson showed a horrible callousness about the welfare of his country.

"Yes, or anythink saife of that sort," answered Liz, contentedly.

Just a moment longer Mrs. Graham saw Liz's happy face and sweet blue eyes, then the light went out suddenly. The footsteps of the lovers echoed down the passage, grew fainter, died away in the distance till at last there was silence.—*Longman's Magazine.*

Some person mathematically bent has calculated that 22 acres of land are needed to sustain a man on fresh meat, while the same amount of land under wheat feeds 42 people; under oats, 88 people; under potatoes, Indian corn, and rice, 176 people, and under the plaintain or bread fruit, over 6,000 people.

SCENES IN CHINA.

The Streets of Pekin With its Beggars, and the Home of the Descendant of Confucious.

The town of Pekin is always most animated. At certain hours of the day the streets are as crowded with foot-passengers, riders on horseback, and carriages as those of London or of Paris. There is plenty to interest and amuse the spectator: Tartar carts and Chinese chaises, blue or green sedan-chairs, the color varying according to the rank and importance of the owner; grooms of the palace in yellow livery, couriers of the Emperor in yellow and black uniforms, long strings of camels belonging to Mongol caravans, condemned prisoners wearing or carrying their *cangues*, etc.; and on either side of the carriageway, under shelters or in the open air, musicians and jugglers, mountebanks and necromancers, public scribes, second-hand booksellers, old-clothesmen, furniture brokers, cobblers, and harness-makers, barbers and chiropodists, cooks and pastry-cooks, sellers of fruit and tea merchants; in a word, every variety of itinerant dealer, resulting in an infinite variety of bright and picturesque scenes. Or a wedding procession marches down the street, with its band, its lanterns, its banners, its parasols, the attendant servants in gala costumes, and the bride carried beneath a red canopy. Or perhaps a funeral cortege of apparently endless length, with its flute-players and gong-beaters, its incense-burners, its Buddhist priests chanting litanies, its mourners making grimaces and howling, succeeded by a long string of vehicles laden with all the things supposed to be necessary to the defunct in the life beyond the tomb; behind which come the relations and friends of the deceased, clad in white hair-cloth; and, last of all, borne on the shoulders of 16, 20, or 30 hired assistants, the huge catafalque itself, loaded with gilded sculpture, and hung with beautifully embroidered blue silk hangings.

The filth of the streets is yet another element of the picturesque. No description could possibly give an idea of it. Dust two feet deep, or lakes of mud, and at every turn heaps of refuse, for which half-naked beggars are fighting with mangy dogs; every conceivable smell, and every conceivable variety of rubbish, no police, and no drainage!

Beggars are the curse, the most crying and shameful evil of Pekin. Numbering some 80,000, they form a kind of caste, a fraternity, with their own traditions and privileges, such as those of the mendicants of the Middle Ages in western Europe, and, like them, having their "Emperor of Galilee, Duke of Egypt, or King of Thunes;" that is to say, an elected chief to whom they all yield obedience. The most curious feature of the whole institution is that the chief, whose headquarters are on the Bridge of the Gate of Heaven, is recognized by the police of Pekin, who deal directly with him in matters relating to the corporation of the town.

As for the misery of these beggars, no description could give any idea of it. But for a rag about their loins, they are stark naked. Even in the severest Winter, when the bitter wind sweeps across the Mongolian steppes, and the thermometer is far below zero, the poor wretches have, most of them, not a shred of clothing to wrap about their shoulders, and they succumb to the cold every night by hundreds. Gant and wan, covered with vermin and sores, they wander about the town harrowing the feelings of the passersby with their piteous lamentations, and fighting with dogs for a share in the refuse of the streets; or for hours together they crouch outside a shop, driving purchasers away by their mere presence, till the owner gets out of patience and flings them a few coins in self-defence. When night comes, they seek shelter under a bridge beneath the gates of the town, or in some tumble-down house, lying down helter-skelter, men, women, young girls, and children, in a promiscuous heap. Their physical misery is such that their moral degradation is overlooked. From their faces all traces of an inner life are wiped out; like the beasts, they can only endure, and seem, to some extent, to have lost the capacity for suffering.

A little on the north, actually within the "Prohibited City," are nine huge palaces, separated by courts, one succeeding the other, and each as spacious as that of the Louvre. This is the most private portion of the palace, the *Ta-nei*, or "great enclosure," which is grand and imposing, but at the same time simple, and with nothing theatrical about it. Here is lived out the mysterious existence, the strange destiny, imposed by tradition for some 30 centuries on the sovereigns of China. As the Son of the Earth and of Heaven, the Emperor owes his supreme authority to his divine origin. His titles, which remind us of those in use at the Byzantine court, are "The Infinite in Virtue and in Science," the "Eternal and Solitary One," the "Unique," the "Sublime," and so on. None dare utter or write his name during his lifetime, and it is reserved to posterity to sing his praises. Accustomed from babyhood to being adored and to the prostration of everyone in his presence, he is initiated at five years old in the knowledge of the canonical books, the celebration of religious rites, and the history of his ancestors. On the approach of his 17th year a bride is chosen for him from amongst the most noble and beautiful young girls of Mantchu origin, as well as two secondary princess wives and 15 concubines. Interminable are the marriage ceremonies, in which take part 6,000 persons of different rank, and in which everything—insignia and costumes, gestures and attitudes, speech and silence, processions and banquets, sacrifices and prayers, the most important and the most trivial details—is regulated with hieratic precision, the very mysteries of the bridal bed being subjected to the authority of inviolable religious rites. And the whole life of the man, who is absolute master of 450,000,000 of people, is but one long ceremony, divided into some hundreds of different acts, now religious, now political, but always grand and solemn. Even death does not free him from his sacred position, and in the majestic necropolis of *Tsun-houa* his soul is supposed to be still performing, amongst funeral rites, the same superhuman duties as in his life on earth.

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"*O fortunatos nimium sua si bona norint agricolas.*"—VIRG.

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RAILWAY RATES.

The Railroad Commission of Texas has run against a snag in the decision of the United States Circuit Court enjoining it from enforcing rates that would preclude the railroads from paying interest on their bonds. The effect of this decision is to take away all the usefulness of the Commission, because the railways will always manage to show that their rates are necessary to meet the interest upon their indebtedness.

This decision really nullifies all legislation regulating traffic rates. It is now forced upon our attention that all this legislation is patchy and makeshifty, and based upon incorrect principles.

What is imperatively necessary to be done is to start a radical reform in railway legislation by repealing every law on the State or National statute books regulating railway traffic. They are without exception botchy, bungling, and based upon wrong ideas.

There are but two ways of properly dealing with the railroad problem. One is for the Government to secure ownership of all the railroads, and conduct them as institutions for the public convenience. We shall not stop now to discuss the merits and demerits of this plan. The other is that the Government shall exercise its undoubted prerogative of minutely regulating the tolls to be charged upon the public highways, no matter what those highways are, whether railroads, canals, rivers, lakes, or turnpikes. This is much simpler than Government ownership, and just as effectual.

For example, the expense of carrying depends upon the relation of bulk to weight, and the speed at which the freight is transported. This would make it necessary to establish first a standard ton and a standard speed. Let us assume that the standard ton be wheat, and the standard speed 10 miles an hour. Then the freight scale could be begun by prescribing what a ton of wheat should be carried at per mile, at the rate of 10 miles an hour. If the shipment be a ton of pig-iron, the rate should be such percentage lower as is established by the bulk relation between wheat and iron. If it be a ton of wool, the rate should be that percentage higher which represents the greater bulk of wool as compared with wheat. If the shipper wish his freight to go faster than 10 miles an hour he must pay proportionately higher rates.

This gives us the starting point for the whole schedule. Charges for loading and unloading should be the only discrimination between long and short hauls. The rate must be inflexible for all shippers, whether they ship 20 tons or 20,000, just as it now is whether a man buys one postage stamp or 1,000,000. The railroads are National highways, and everyone in the Nation are entitled to use them upon exactly the same terms, just as everyone in a city is entitled to use the city's highways, the street cars, upon the same terms.

This simple plan will solve the whole problem. The whole of the present cumbrous and unsatisfactory system of Railway Commissions should be swept out of existence. They are worse than useless, if for no other reason than that they remove the administration of justice too far from the victims of wrongdoing. The man who has been injured by unjust freight rates should not be compelled to go to his State capital or Washington for justice. He should have it right at home, just as he has justice for other wrongs. If we had a National schedule of freight rates, universal in its application, a man need not go further than his County seat to have his wrongs righted. Either jurisdiction could be conferred upon the local Courts of Common Pleas to hear and determine cases arising out of violations of the railway laws, or the Government could have a Commissioner there for that purpose.

Now we come to the stumbling block which has wrecked the Texas Commission—the payment of interest upon railway indebtedness. This matter is equally simple when looked at with eyes unclouded by the railway boss's noisy sophistication about "vested interests," "rights of capital embarked in the enterprise," etc. The plain truth is that a very large proportion of the assumed investment in railroads is water and wind, which deserve no such sacred regard as the railway bosses claim. Every investor is entitled to a fair return upon the capital he has put into building a railway for the public convenience; but he is not entitled to a cent of interest upon the inflated fictions which make up fully one-half of the reported railway valuations in the United States. There is no mystery about railway building. It is as near an exact science as anything in the business world. Any competent engineer can tell with little trouble just what has been or should have been the actual expenditure in constructing any railroad in the United States. The cost varies but little in all the wide expanse of country lying east of the Rocky Mountains. The cost of carrying freight also varies little all over that country. Therefore, the rate for moving a normal ton of freight a mile at a normal rate of speed can be readily fixed at a point where it will yield a fair return for the capital legitimately invested in construcing the road.

By wiping out all the involved and cumbrous legislation at present on the statute books—laws which no man understands, and the main office seems to afford fat salaries for legal experts employed to juggle them—and starting afresh upon the plain, simple principles we have outlined, we can have a system worthy our country, and which will do justice to all, high and low.

NUMBERING FARMHOUSES.

Our suggestion as to naming roads and numbering houses from County seats has taken hold of people in all sections, and it meets with more general acceptance than any other plan. It is really the only common-sense scientific plan. It is based on the plan of naming and numbering the streets and numbering the buildings in Washington, which is the admiration of all visitors to the National Capital.

The plan we suggested is exceedingly simple. We will reiterate it: Let every County be divided into four quarters by lines drawn due east and west and north and south through the center of the Courthouse. These quarters will be known as the "Northeast," "Southeast," "Southwest," and "Northwest," respectively. Then let other lines be drawn due north and south, east and west, dividing the whole County into blocks of one mile square. In the interior of the country where the land has been surveyed by the Government this has already been done by section lines. Then let all the roads running east and west be lettered north and south, or named after the Presidents. Thus, the first road north of the middle line would be "Road A North," or "Washington Road North;" the second, "Road B North," or "Adams Road North," and so on. The first road south of the line would be "Road A South," and so on. Or it might be better to name the roads north of the line after the Presidents or the months of the year, and those south by the letters of the alphabet. It should be assumed all the time that there is a road every mile. If there is not there will be some time, and a place in the numbering should be left for it.

The roads running north and south should be numbered east and west—"First Road East," "Second Road East," etc.

Then the houses should be numbered consecutively from the Courthouse, allowing 100 numbers to eve.y mile along the roads.

This would make it so that when an address was given as John Smith, 1415 "Van Buren Road Northwest," it would be at once known that he lived 14 miles west of the Courthouse and eight miles north of the central line of the County.

HOLD ON TO YOUR LAND.

A man who has a plot of ground, no matter how small, should think long and well before he sells it, unless it is to buy another piece. In spite of all that croakers say, the value of farming lands must steadily increase all over the country. We are increasing our population at the rate of two and a half per cent. per annum, while the amount of farming land in the country must remain stationary. We are nearing the limits of all the good agricultural land in the Nation, and it is not likely that we shall annex any great tracts. There are no more Texases, Californias, and Northwest Territories lying along our borders wanting to be taken in. We must house our yearly additions of population upon the ground we already have, and feed them from its products. Ten years from now we shall have 80,000,000 people, where we now have 65,000,000. This means that all the available farming land in the country will have increased from 10 to 25 per cent. in value.

This process must go on indefinitely as our population continues to increase.

In brief, a piece of real estate, large or small, is a very good thing to hold to.

THE wheat yield of the best section of Kansas will average 18 bushels per acre this year, which is large compared with that of previous years; but there are progressive people out there who insist that this can and should be increased to an average of 28 bushels.

KANSAS farmers are feeling good over getting from $80 to $90 a ton for broom corn, which makes it a very profitable crop. Rice County is the center of the industry, and has $300,000 worth of the sweeping material this year.

PROTECTION ON TOBACCO.

New York farmers are delighted to find that protection really protects. They are large tobacco raisers, but under the low prices induced by the unlimited importation of Sumatra tobacco the profits were so small and uncertain that many of them were going out of the business. Two years ago the McKinley Bill was passed, which raised the duty from 35 cents a pound to $2, and the importations of Sumatra tobacco, which aggregated 10,763,000 pounds in 1890, fell to 6,342,000 pounds in 1891, and to 2,886,900 pounds for the first half of 1892. The average price for New York tobacco in 1889 was about 10 cents a pound; in 1890 it averaged about 11½ cents a pound, and 12½ in 1891. This year it averages from three to five cents a pound higher than last season, and in some sections the advance was 10 to 12 cents. First wrappers now sell for from 22 to 35 cents a pound. Last year they brought from 18 to 20 cents; short wrappers bring from 14 to 20 cents; in 1890 they sold for from 12 to 15 cents. The total value of the crop raised in New York in 1890 was valued at $1,400,000; this year's crop is estimated to be worth $2,000,000.

The increased price has brought about a decided increase in the acreage devoted to the crop, as the comparative statistics of the production in the principal tobacco Counties for the years 1891 and 1892 will show:

Counties.	1891. Pounds of tobacco raised.	1890. Pounds of tobacco raised.
Onondaga.....	3,815,050	2,631,980
Cayuga.....	287,570	218,306
Wayne.....	378,505	240,285
Madison.....	5,640	3,000
Oswego.....	747,530	544,190
Tompkins.....	160,524	89,475
Orleans.....	10,:90	10,000
Steuben.....	1,506,557	895,710
Chenango.....	1,375,740	882,950
Tioga.....	5,899	6,132
Broome.....	9,000	7,500
Putnam.....	120,000	100,000
Duchess.....	120,000	100,000
Total.....	8,542,305	5,929,428

There are about 4,000 farmers engaged in tobacco raising in New York, and the protection on tobacco will put at least $1,000,000 a year into their pockets, which have hitherto been to Sumatra. It seems to us that this is a practical illustration of the benefits of protection, which is worth many reams of windy theorizing.

THERE are just as big rewards in farming as in any other pursuit in life. The men who get them are the ones who make a life-long study of the business and neglect no opportunity of gaining all the information possible bearing upon it. The most successful farmer must study as hard as the successful lawyer, doctor, merchant, manufacturer, or engineer to master the intricate details which make up success.

HERE is a simple proposition in political economy: The President of the Piedmont (Ala.) Cotton Mills states that a bale of cotton made into cloth is worth $70—just twice the value of the original bale. This being the case, then, every bale that we make up at home is an exact doubling of the wealth of the country, based upon cotton growing. If it is a good and profitable thing for the country to grow a bale of cotton, it is doubling the good and the profit to convert it into cloth. If th South got rich raising an average of 7,000,000 bales of cotton a year, it would have gotten more than twice as rich by making the cotton into more marketable products. This is political economy in a nut shell Every bale of cotton exported is that much of a loss to our National wealth, and that much of an increase of the wealth of the Nation which makes it up into its retailing form.

IT IS singular what ramifications the silver question has. Not the least important is the effect upon the price of ginseng root, the gathering of which is a considerable industry in several sections of the country. This brings a high price—ranging from $2 to $3 a pound—but our only market for it is in China, where it is esteemed as the greateast of all medicinal herbs. It was formerly worth its weight in gold in China, but the great quantities sent from America has steadily depreciated the price. The fall in the price of silver has given it another severe blow. The Chinese buy it for silver, giving such a weight of silver for such an amount of ginseng. As the value of silver has rapidly declined, so has the price paid in the country for ginseng.

THERE is occasion for thought and investigation in the fact that sheep are healthy on new lands and in new regions, but in timr become diseased. It is all due to ignorance and indifference in buying diseased sheep and handling them on the farms and ranches. If individual interest is not enough to keep flocks healthy, there should be a law on the subject, not for scab alone, but all the ailments of sheep.

IT IS terrible hard for our "pure-bred brethren" to get over the crossing of breeds. They are born and bred thoroughbreds, and have so long been advocates of pure breeding that we must bear with them. They may get over it after they find it is a short cut to a new dollar.

IT IS a fact, perhaps not generally known, that sheep farms hardly ever have fleas. A flock of sheep will rid a yard or barn of fleas in a little time. The joke is on the fleas, not the sheep.

MOBILE, Ala., has a boom in the lumber business. Quite a large trade has developed there in supplying Mexico and South America with timber, shingles, and lumber, and this promises to grow rapidly.

CANNING factories are springing up in various parts of the South. This is a hopeful sign. The South should supply the world with canned vegetables.

THERE is a rumor that all the different cattle associations in Texas will consolidate.

BUREAU OF INFORMATION.

Henry Fairbanks, Owosso, Mich.—In earlier years the large proportion of farm owners cultivating their own farms has been regarded as a distinctive feature of the agricultural industry in the United States. The first attempt to secure statistics on this point was made by the census of 1880. This found that 74 per cent. of all the farms in this country were worked by their owners. Tenant farming was found to be more general in the South than in the West, and more general in the West than in the East. Thus in the South only from 50 to 70 per cent. of the farms were cultivated by their owners; in the central Western States fron 70 to 90 per cent., while in New England from 80 to 95 per cent. were worked by the proprietors. The eleventh census has made a similar inquiry, but thus far so small a part of its results have been compiled that no comparison of the different sections of this country can be made. So far as known, however, these results seem to indicate a general increase in rented farms. In Kansas, for instance, 10 typical farming Counties show a percentage of families renting farms of 33.25, where in 1880 the percentage of tenant farmers was 13.13, and 10 Counties in Ohio show an increase in the same percentages from 24.96 in 1880 to 37.10 in 1890. Report has also been made concerning the State of Maine. That State in 1880 reported the smallest relative farm tenancy east of the very newly settled territory of the Northwest. Now, it is shown that the number of owned farms has decreased from 61,528 in 1880, to 57,391 in 1890, while in the same interval the number of rented farms has increased from 2,781 to 4,731. The percentage of persons owning farms in 1880 was 95.68, in 1890 this percentage was 92.38. More complete statistics on this very interesting subject must be waited for.

Zac Johnston, Great Falls, Va.—When the choice of a President is thrown into the House of Representatives, by reason of the failure of a popular vote to elect, the votes are taken by States, the members from each State having one vote. Should these membembers be divided in opinion, the vote of the State must be cast in accordance with the wishes of the majority, and should this division form a tie, the vote of the State cannot be counted.

A Constant Reader, Leesburg, Miss.—The dates of birth for the persons in your list are as follows: Benjamin Harrison, Aug. 20, 1833; Grover Cleveland, March 18, 1837; James G. Blaine, Jan. 31, 1830; Roger Q. Mills, 1832; William McKinley, jr., Feb. 26, 1844; Chauncey M. Depew, April 23, 1834; Frances E. Willard, Sept. 28, 1839; Susan B. Anthony, Feb. 15, 1820.

Isaac Knight, Findley's Lake, N. Y.—A Presidential elector receives for his services the sum of $15 per day for each day in attendance at the Capital, together with "10 cents per mile each way from his place of residence, by the most traveled route to the place of meeting." Ten cents a mile leaves a margin of profit, for no railroad is permitted to charge more than three cents a mile.

Henry Albrecht, Vancleve, Iowa.—Official statistics show that during the special revenue year, ended April 30 last, the production of beer in this country was 31,475,519 barrels, and an average of half a barrel for every man, woman, and child in the country. Beer is rapidly becoming the National beverage.

PERSONAL.

Dr. John Trimble, the Secretary of the National Grange, is in the city at present, after having made an enjoyable and pleasant trip to Chautauqua, N. Y. While at Chautauqua he delivered an address to an audience of over 7,000 people.

Hon. Reuben F. Kolbe, who has acquired National prominence as a candidate for Governor of Alabama, was born in Barbour County, of that State, in April, 1839. He graduated from the University of North Carolina, and commanded a battery in the Confederate army during the war. At the close of the struggle he returned to the farm, and speedily became locally noted for intelligence, progressiveness, and success in the management of his acres. Next he came into more general notice by the magnitude of his melon fields, and the rich returns he reaped from them. In 1886 he was appointed State Commissioner of Agriculture. In 1887 he was elected President of the National Farmers' Congress, and was re-elected the next year. He became a leader in the Farmers Alliance, and in 1890 yielded to the urgency of his friends and became a candidate for the Democratic nomination for Governor. He was defeated by a combination of the old politicians against him. He became a candidate on an Independent Democratic ticket this year, and the campaign which followed was the bitterest ever known in the State. His friends claim that he carried every County in the State but eight, and was elected by several thousand majority. The friends of the regular Democratic candidate deny this vigorously, and assert that their man was elected by at least 10,000 majority.

RAISE CLUBS.

We want every one to try to raise clubs for THE AMERICAN FARMER. It is a splendid journal, and will find favor in the eyes of all who see it. It ought to be very easy work to get subscribers. We will make good inducements for sons and daughters of farmers to get up clubs. Write for terms to club-raisers, and premium lists.

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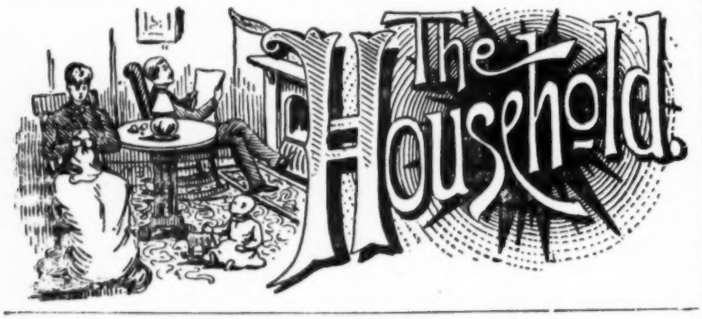


The Summer.

The beautiful Summer is almost done,
Though long it seemed when the noontide sun
Of jubilant June streamed clear and high
Through the vast expanse of the soft blue sky.
The fair fields smiled in their vivid green,
The rivulet sparkled and danced between
Its emerald edges, with merry song;
And I said: "O, the Summer is blithe and long!"
The beautiful Summer is almost gone,
It seemed not so when July came on;
When the sun with a hightened splendor shone,
When the rivulet hummed in a drowsy tone,
When blade and bud fast waxed complete
'Neath the brilliant beams and the fostering heat;
When the grain fields teemed with a mighty throng,
And I said: "O, the Summer is bright and long!"

The beautiful Summer is almost o'er,
The rivulet sleeps, and it sings no more;
The heart of the universe pulses strong
Through the hidden arteries vast and long,
The ripened seeds in their cells expand,
The golden grain waits the harvest hand,
'Neath the glowing gleams of the August sun;
And I sigh: "O, the Summer is almost done!"

Summers of life, how ye come and go!
But whence or whither, what soul may know,
For ye flee away, as the shadows pass,
Like a silent wave o'er the growing grass.
Ye burn in the vigor of manhood's prime,
Ye burn with an energy sublime;
But ye wane, and ye darken, your warmth is gone,
And the Winter, the Winter comes surely on!
O, glorious center of living flame!
O, radiant source when existence came!
Withdraw not thy luster of living light,
Lest I shudder and perish in chill and night!
Let my spirit within thine effulgence float,
Upborne aloft to thy spheres remote;
Let it poise and soar through realms of day,
Unshadowed, unshrinking, away, away!

—*Marion Hicks-Harmon, in New York Sun.*

By the Editor's Fireside.

I DO NOT know of anything much more curious and interesting than to observe the various conceptions which people have of true hospitality. To one it means simply to throw the doors wide open that all who list may enter in and abide so long as they desire. To others there seems in this such a lack of discrimination that to be entertained in such a home is no compliment, and therefore they make their invitations mean friendship and appreciation. One thing is certain—the woman with the latch string always out, unless she has ample means and competent help, finds life for her cast in hard lines. She is never sure of a leisure hour. She is the property of her friends or of her acquaintances. She does not know what it is to have an hour to sit down to think. Her days are full to the brim of a certain kind of excitement. She is not likely to have many hours in which she may devote herself to self-culture. In fact, she has no personal ownership in any of her time, her home, or herself. On the other hand, she has hosts of those who claim to be friends, and to whom, perhaps, she has given many happy hours.

I think there is such a thing as going to extremes in both directions. There is always a happy medium in all courses of action if we have only the wisdom to find it out, and the strength of mind to hold ourselves true to its following. It is not right to give one's self, physically and mentally, to the world. It is not right to cut off all opportunities for growth through those means which can be made use of only in hours that may be called absolutely one's own, and into which the interests of others do not intrude. Everybody needs time and opportunities to know one's self. There may be, however, such a thing as selfishness in this direction. Other people have claims upon us from which we may not escape. I am not simply speaking of those who are bound to us by ties of blood or friendship, but of those with whom we are only connected by the interest given through the demands of social life—demands that are sometimes as important, in their way, as those which are made upon us the sacredness of which we always recognize. It is right to exercise hospitality toward those for whom we have no special love or interest if they are brought to our door, for they doubtless bear some message to us which it is important for us to receive. In other words, we must have a care that our hospitality does not degenerate into simple selfish enjoyment of those from whom we feel we may gain something of mental value.

* * *

PEOPLE who live upon a farm in the East can have small idea of what those who go into a new country to take up land are obliged to endure. Farming under the two conditions are entirely different. Those upon the new land are obliged to do without many of what are considered absolute necessaries of life, not to speak of the comforts that are easily obtainable in the older settled regions. When we read of a cabin built by the hands of the husband and wife, covered over, perhaps, at first with the branches of trees, and where the underbrush is so thick, often to the door, that the denizens of the forest find their way in, including the much-dreaded snake, we feel like thanking the destiny that placed us in a more civilized part of the country. Yet this state of things is not uncommon in a new country. Of course there are compensations; indeed, there must be, or so many people would not go away off into these wild regions to make their homes. To know of these things should make those who live upon highly-cultivated farms, mid pleasant surroundings and near markets for their produce, feel that their lines are cast in pleasant places.

One thing is true—that those who have the courage to go away into the wilderness develop an independence in many ways that is not possible in older communities. They learn to make the most of everything. Nature teaches many lessons. When diseases or sickness come, and the doctor is so far away, the herbs which they have carefully gathered and dried come in play and do just as well in most cases as the doctor's medicine. Many a housewife has saved her children from long, tedious colds by the judicious use of hot teas made of pennyroyal or catnip. The latter they also use for sleeplessness, produced by what we now call nervous exhaustion. The yarrow is laid away in great quantities to be at hand in the Summer time when the digestion is disordered even to the point of some of the most dreaded diseases of the bowels. Boneset is also a most common remedy for ague. I saw somewhere the other day that physicians have been using it lately in attacks of the grip, and quite successfully. This was the treatment: When the chill came, the feet were put in hot water into which two teaspoonfuls of mustard were scattered; after soaking them until the water was lukewarm, the patient was put in bed, or, at least, made to remain in a warm room, and the boneset was taken hot until perspiration commenced; once in half an hour was the usual time. The diet should be light and nourishing, and even after all symptoms have disappeared the boneset tea is given, night or morning, half a cupful at a time for two weeks.

In the Rocky Mountain region the mountain sage is gathered and dried in the month of August; it is used for what is called mountain fever, which is very much like the ague of the lower regions. It is also considered very excellent for kidney difficulties. So one might go on with very many other herbs which people learn to use in places far away from any other help. It might be better if dwellers in towns would take these simple remedies, and care for themselves rather than always to send for the doctor at the very slightest indisposition.

The housemother and the daughters learn to decorate their humble home and give them a brighter air, using materials that cost little, only the labor. I heard of a Kansas dugout, the walls of which were made pretty, or at least attractive, being covered with pictures cut from illustrated newspapers that Eastern friends had sent to them. Table covers were made out of odds and ends of bright-colored silks or wools that came to them in the same way. In fact, if one has ingenuity, a life with such limited resources will be sure to develop it, and I imagine that many, in fact most, of the conditions of civilization came about from just such small beginnings. Earnest desires will foster invention always.

* * *

EVERYBODY admires true courage, that kind which enables its possessor to risk life in order to do a deed which will be for the good of others. Greater, however, and far more worthy of admiration, is the moral heroism that enables man or woman to face ridicule, and perhaps personal abuse, for the sake of principle, to bear witness to what one believes to be right.

Perhaps no more striking example of the latter kind of courage can be imagined than that exhibited by Lady Henry Somerset, the English woman who visited the United States last year to study the progress of the temperance and the white ribbon cause in this country. It will be remembered that Sir Charles Dilke was a candidate for Parliament during her visit here. Lady Somerset at once drafted a petition and sent it to England to be circulated, begging Mr. Gladstone to take ground against Sir Charles, who was well known for the immorality which caused the breaking up of a family a few years ago. When she returned to England she was urged to oppose him upon the platform. It was asking much of a woman to go before a crowded audience made up of noisy, brawling fellows who had been sent to make a disturbance while she was speaking. Yet she walked calmly upon the platform with a friend, and waited quietly until the time came for her to speak. Amid the hooting and yelling of the crowd, which had already silenced a number of gentlemen, she came forward and was introduced to the people before her.

Only think of it! There she stood calmly in the presence of a hooting mob which received her with yells and curses. She waited bravely five minutes for the uproar to cease, a silent witness for women and for the sanctity of the home, and then seeing that she would not be allowed to utter a word, she bowed courteously and retired from the platform. Her answer to the Conservative candidate, who begged her, if she spoke, not to touch upon the moral aspect of the question, is worthy of historical preservation. She said: "I came for that, and that only; you must surely know that I, a Liberal and White Ribboner, am not on this platform among Con-

servatives to speak for you who are a brewer, except that you are a candidate of pure life as against a Liberal of notoriously impure life."

When women read the further account of how the mob closed in upon the train at the station, greeting Lady Somerset and her friend with a low, ominous growling, and that she only escaped personal violence by the hasty action of the officers of the train in moving away, they cannot but feel proud that a woman should have stood so heroically true to the cause of morality and of her sex.

ODDS AND ENDS.

Of Information Useful to the Household.

One of the most convenient things in mending and which few women know much about is rubber tissue, which can be purchased at the rubber stores and is sold by the ounce. It is, as one may imagine from the name, very thin and transparent. In order to use this, the frayed threads must be cut out of the tear and the edges drawn closely together. Then place a piece of the tissue over the rent, and a piece of cambric over that, and press it with a warm iron. Care must be taken not to have it too hot, as it will either shrivel the rubber or melt it, so that it will stick to the iron. When the iron is removed the mending is done. Never fail to put the cambric or some other cloth between the iron and the rubber. Hemming can also be done with it by slipping a strip of the tissue just under the edge of the hem and pressing it down. It may be used also to strengthen thin places in goods. Of course we would not use this in cotton goods that are to be washed.

* * *

Anyone who is about going to housekeeping for the first time, or who is refurnishing, will find it greatly to their advantage to purchase for their bedrooms bedsteads either of brass or iron. Of course, the former are expensive, and if means are limited cannot be indulged in; but the latter come within very moderate expenditure. The advantage to be gained is in cleanliness and ease of keeping them in order. They are easily dusted, do not readily mar, and furnish no homes for that pest of good housekeepers, bedbugs. The iron bedsteads come painted in colors, and can be bought to match the coloring in the room. Very pretty ones may be had in white with little touches of gold here and there. They are also painted in light blue, pink, or are in black and gold. Of course, such bedsteads never wear out.

* * *

I wonder how many know about the Japanese "Kairo?" "What is that?" do you ask. Well, it is a device for applying heat to any part of the body, and has been in use by the Japanese for over a hundred years. Anyone can have it so far as expense is concerned, for it costs only a quarter of a dollar, is easily carried, and of great capacity in disseminating heat. It is about the size of a sardine box, and is filled with what is called punk. When about to be used this is lighted and allowed several minutes to get well to burning before the sliding lid is closed. Then a handkerchief can be wrapped about it and the little heater be put anywhere that a person most desires to have the warmth. This is quite a well-known little contrivance upon the Pacific Coast. The punk is about like a large firecracker in shape, and it is filled with charcoal of the kiri wood. Surely if people knew of the excellence of this little Japanese invention, its use would be more general.

* * *

Not every housewife knows how to pour out tea. Probably you who read will be inclined to laugh at the idea that there is anything to be learned in this direction; but very few know how to apportion it so that each member of the family shall have it as strong or weak as he desires. When it is brought on, the hostess usually pours the first cup for the guest at the table, while the after cups reach to each member of the family in turn, giving to the younger portion the strongest tea. The proper way to do would be to pour a little in each cup and then go backward, proceeding in this way until there is little difference in the strength. Notice after this and see if it is not true that the stranger at the table gets the weaker cup of tea through your desire to be courteous.

* * *

One of the most convenient articles where room is limited, and especially closet room, is a wooden box which is put upon castors and is just high enough to fit underneath a bed. It should be long enough to hold dresses with little or no folding. Upon each side a handle should be placed, by means of which it can be drawn out easily. People who are boarding will find this especially convenient.

* * *

Another very convenient thing for those who are limited in bedroom furniture is a substitute for a washstand. A broad shelf can be made and fastened to the wall with strong brackets. It should be just high enough for convenient use. Over it a glass may be placed, and then if the lower part is draped with a flounce of some pretty goods in soft coloring and the toilet appointments are dainty the whole produces a very pleasing effect, and will not give anyone the idea that it is merely a makeshift. If a person has but one room and desires to use it both for sitting-room and for sleeping, this washstand may be shut away from the rest of the room by a pretty screen. Then with one of the folding beds which can now be bought for a comparatively small sum of money, the room need have no appearance of a bedroom in the day time.

* * *

I hope none of the readers of THE AMERICAN FARMER will be shocked when I say that the use of some simple powder for the face in the Summer is almost a necessity. Of course I would not advise anyone to buy a powder without knowing something about it and its effect upon the skin. It is very easy to ascertain whether there is white lead in it by dropping a little ammonia upon it; if the lead is present it will turn black, and this tells the story immediately. A good powder may be made at home, and one that I have seen recommended is the following: Six parts of good starch and two parts of orris root or violet sachet powder, whichever is preferred. Pound the mixture thoroughly until it is reduced to the finest powder, and then sift it through a fine sieve. It is to be used with a puff or a chamois skin. Often the latter is made into a bag which has been perforated with a coarse needle sufficiently to let the powder sift through.

WINDOW GARDENING.

Some Preliminary Hints by One Who Has Had Experience.

The season has now come when the arrangement must be made for the beautifying of the house by window gardening. Where anyone has a proper exposure and loves plants well enough to be willing to give the care and labor necesary, there is no decoration more beautiful for the home in the Winter than blossoming plants, or even plants with full, fresh foliage without blossoms.

If the plants which you are to remove into the house have been left in the pots through the Summer they should be transferred to larger ones before carrying into the house. This is because it is necessary to make provision for the growth which they have made during the Summer. The larger pot is especially necessary if they have been set out in the ground, and then, too, some extra care is needed in repotting. Doubtless they have sent out long and extended roots in all directions which will have to be cut off when transplanted. This cutting should be done some time before the plant is taken up. A week or two before that is to be done, take a sharp spade and carefully cut down around it, leaving it otherwise undisturbed, and water it carefully for several days. The top should also be trimmed back in correspondence with the cutting of the roots.

Do not put them after repotting in a room where there is much heat, but in a cool place until they have become thoroughly accustomed to their new conditions. Water them thoroughly, being sure that it passes completely through the pot and around the roots.

Many gardeners recommend for Winter flowering young plants as far more desirable than those of greater age. Select those growing in three-inch pots, and transplant into the larger ones; and through the later Summer months allow no flowers upon them, leaving all the growth for the plant itself. In September the blossom buds may form, and if cared for intelligently there will be compact, bushy plants of nearly uniform size which will continue flowering all Winter.

Many window plants may be raised from seeds, but it is better to plant them early in the season in order to have them ready by Fall for the house. If planted now they will hardly flower unless they belong to the class of annuals which flower very freely. Among these are mignonet, phloxes, white alyssum, candytuft, and others.

THE WORLD'S FAIR.

Something of Especial Interest to Women.

I suppose that every woman in the United States who has any opportunity of raising the money to compass her desire expects to go to the Columbian Exposition. To read of what is being done in preparation seems almost like a fairy tale of impossibilities. Never before in the world's history has woman had the opportunity to show what she has done in the past, what she is doing in the present, and what she will do in the future. Never before has she been permitted the opportunity to make evident her influence upon the world's progress. Never before to give more than a hint of what her brain has accomplished to forward the industrial growth of the world.

Twice in the past has an effort been made to afford her a chance to make some exhibit of the products of her labor, but each time was it a failure. Both at the Centennial at Philadelphia and at the Cotton Exposition at New Orleans the showing was meager and frivolous. For whatever appeared in conjunction with men, they were given little credit. The principal effort was in the direction of dairy products and the silk-worm industries, both of which were largely prepared by women, but went into the general classification, so that women's work could not appear distinctively in the approved, finished article made in factories by men and women together.

At the Columbian Exposition there will be no such drawback as this. In the magnificent Woman's Building, which contains a floor space of about three and a third acres—a building which was planned by a woman, and its decorations the product of woman's brain—will be ample space for the exhibits of their separate work, while arrangements have been made for that which is to be exhibited with masculine achievements to be judged by a committee made up of both men and women. Woman exhibitors will not only have the right to a twofold display of their work, but will be urged to make it, as the Commissioners desire to have everything good in each department, and also in the Woman's Building.

Aside, however, from what is to be seen in a general way at the Fair, there is one branch of work that is especially interesting to housekeepers everywhere, and which will attract the homekeepers in country places particularly; that is "The Columbian Association of Housekeepers and Bureau of Information," the object of which is to improve in every direction methods of labor in all departments of

woman's work; to find out the most economical ways of doing work and to discover what is true economy—economy of time and strength as well as of material.

It is especially desired that farmer's wives and farmer's daughters shall take an interest in this association. In small places, and upon farms more than in cities, it is difficult to obtain assistance for the doing of the necessary household labor. There is no doubt that the happiness of the home is many times lessened by the burden borne by the mothers who find what is required of them day by day is far beyond their strength. Too often by the time middle life is reached, when they should be in their prime, they are prematurely old and ready to lay down life because all ambition is gone through the complete exhaustion of their vitality. It is the desire of the women who have formed this association to study the best methods of solving the domestic problems which make life so hard for so many women. They want to gather statistics which will assist in forming an idea of what is needed to reduce the cost of living, to lessen the hours of labor, to secure time for recreation and study for housekeepers everywhere, but particularly in villages or faming communities.

Of course, this is only one branch of the work of this association, but it is one in which the readers of THE AMERICAN FARMER are most interested. Each and everyone who has studied into the matter and who has simplified her own methods, who has had experience in co-operation, either in bakeries or laundries, who has studied into the simpler and less expensive modes of life in the Old World, is requested to communicate to the association these facts for the benefit of all those who have not yet obtained this knowledge. There is no doubt but that this may be made a thoroughly practical means of simplifying housekeeping. The bringing together of the ideas of intelligent women from all over the world will enable plans to be formulated by which conditions may be made far easier and more comfortable. During the Fair congresses will be held, at which time all these topics will be considered, and addresses will be made by those who are especially adapted, through study and experience, to present the matters in the clearest light.

In order to forward this work, the association recommends the formation of circles in the village and farming communities, the object of which is the considering of all topics pertaining to the home life. They will communicate with the central association at Chicago, giving their methods of working, and what they intend to accomplish, receiving in return the reports of what has been done there and the tabulated knowledge of what they have received from other places, both in this country and in foreign lands. The Columbian Association of Housekeepers has not been organized simply for work for the Exposition, although it is hoped to make an exhibition of material exhibits there, and also of ideas at the congresses held, but it is designed to have its life continued when the great Fair is only a memory. It is organized upon a permanent basis. What is wanted is for housekeepers everywhere to become members and receive the benefit of whatever is learned, either during the coming year or in the future. The expense of belonging to the Association is but a dollar a year, that small fee being necessary to cover the expense of the necessary printing and distribution of circulars of information, the clerical work at headquarters, and for the headquarters itself. Correspondence is solicited from all housekeepers in order to obtain statistics of how much is spent for food, material, rent, clothing, fuel, and miscellaneous expenses, and how these expenses may be proportioned to various incomes. These matters are quite as important upon the farm as in the city home.

I have only touched upon this matter, but believe it to be such an important one to the women of this country that all should enter into it with spirit and enthusiasm. Only by individual labor and interest will success be obtained. In every State committees have been appointed to look after these matters, but each woman should consider that she has an individual work to perform. Let her show her interest by communicating with the association and learning all that she can of what is to be done, and then join herself with others in pushing the work forward in her own community. If she cannot because of her duties do active work, she can at least become a member and show her interest in this way in what has been undertaken. The President is Mrs. John Wilkinson, of Chicago, and her address is 482 La Salle Ave. Rest assured that any letters of inquiry addressed to her will receive attention.

This seems a tangible way out of many of the difficulties that have beset homekeeping. Some of you may remember those pretty lines answering the question of what is good housekeeping—

"Why only with quiet grace
To do what seemeth best each day
To brighten Love's dwelling place,"

but often and often this "doing" is so hard, the "quiet grace" is so difficult to preserve because the way is thickly hedged in, that Love's dwelling place is not brightened as it should be, and it is for this reason that anything looking toward the conditions that make the home truly blessed should arouse the hearty sympathy and co-operation of all women.

WORK FOR BUSY FINGERS.

Pretty Things for the Household of the Farmer.

HANGING POCKET.

A pretty hanging pocket for the dressing-room is made out of Java canvas. Take an oblong piece, eight inches wide by 12 inches long. Eight inches from one end slant both ways, cutting the shorter sides up to a point and the lower so that the bottom will be four inches wide. Have three pockets, one over the other; work each of these with some pretty pattern in cross stitch, using rope silk or linen for that purpose. Put a stiff pasteboard in the back, having it covered with silk or satine for a lining. At the bottom and going about half way up the lower pocket have a little pincushion made just the width and shape of that part of the bag. Have loops of ribbon at the pointed top to hang it up by. The bag should be bound around with braid.

A pretty case for pins and needles may be made of fine dark blue or crimson broadcloth. Cut a piece 10 inches long and five inches wide. Round one end the depth of two inches, making it rather pointed at the middle. Pink out the edges all round, then fold it evenly together, letting the edge come just below where the rounded part begins. Draw the pattern upon the outside of the folded part, then turn the flap down and draw a pattern to match upon that; embroider both. The embroidery of the flap will be on the opposite side from that of the lower part. Line neatly with silk of some bright color. Fasten the folded part together, forming a pocket, and above that put flannel leaves for needles. Sew a button and loop on to fasten the case together.

SHOE CASE.

People in traveling are often annoyed to know what to do with their shoes which have been worn, and which, therefore, they do not like to put loose into the trunk. Small cases will be found very convenient and serviceable made of heavy gray or brown linen. Cut two pieces, one 18 inches long the other 13 inches, and each seven inches wide. Round both ends of the longer piece, but only one of the shorter. Upon the shorter piece embroider the words "Goody Two-shoes" in browns. Then lay the pieces together and bind them with braid and feather-stitch the edge where it is sewed to the linen. Turn the top down like a pocket flap and fasten with a ribbon loop. As many such cases may be provided as wished for.

For the Home Table.

RIBBON JELLY.

Ribbon jelly is made by putting different jellies one over the other in layers. Yellow is made from lemons and oranges; red, from red wine or currants; green, from a little spinach juice added to any light jelly. Each layer must be hard before the other is poured in. Fruit may be put in it, such as cherries, green grapes, strawberries, etc. Put in a mold. When ready to serve turn out in a glass dish. Serve in slices with whipped cream.

CREAM MERINGUES.

Whip the whites of four eggs very stiff. Beat in this one pound of powdered sugar, and flavor with orange or vanilla. Heap in the shape of an egg on the stiff paper lining of the bottom of a baking-pan; put one inch apart. Put in the oven, leaving the door a little ajar. When a light yellow take out and cool. Slip a thin-bladed knife under each to remove from the paper. Scoop out the soft inside and fill with whipped cream.

MINCED CHICKEN WITH MUSHROOM.

Chop moderately one pound of chicken. Canned chicken can be used. Cut one-half pint of small mushrooms in small pieces, and boil them in their liquor for five minutes, then skim out the mushrooms and set aside, keeping them hot. Add enough milk to the liquor to make a coffeecupful. Stir a tablespoonful of flour in a little milk, add a saltspoonful of salt, a scant one-half saltspoonful of white pepper, and a tablespoonful of butter. Stir this mixture into the liquor of the mushrooms, and let boil for three minutes, then add the mushrooms and chopped chicken and cook three minutes longer, stirring continually.

PICKLED PEACHES.

Pare and halve the peaches and lay them in a jar. Make a sirup of five pounds of sugar and one pint of vinegar; boil and skim well and pour over the peaches hot. This must be done every morning until the sirup is thick, draining the peaches in a colander each time. Put in a few blades of mace, as cloves darkens the peaches.

PICKLED WATERMELON RINDS.

Peel off the green skin; cut the rind in pieces suitable for serving. Pour over them boiling alum water sufficient to cover them, let them remain in for a day or more, then drain well. Make a sirup of two pounds of sugar to one pint of vinegar; boil the rinds in it until clear. Then boil down the sirup until thick and pour over hot.

STUFFED TOMATOES.

Pare large tomatoes, cut out the core and fill the cavity with finely-grated bread crumbs, seasoned with chopped parsley and onion, and, if liked, a very little chopped ham. Add pepper and salt and a little butter. Bake 20 minutes and serve on toast.

MACCARONI SAUCE.

One-half can of tomatoes; four red carrots sliced; two small onions; 10 cloves; four sticks of cinnamon; cayenne pepper and salt; one-fourth pound of butter; two pounds of lean beef cut small. Add a little water if necessary; let it simmer two hours, then strain through a colander. Pour this over maccaroni after it has been boiled tender.

MINT SAUCE.

Three tablespoonfuls of mint chopped fine; five tablespoonfuls of vinegar, two of sugar. If vinegar is very sharp use a little water.

SHEEP AND WOOL.

Shearings.

What are your expectations?

Keep the best ewe lambs on the farm for breeders.

The surest way to rid the farm of scab and foot rot is to sell them.

When good sheep are found the question is not so much of breed as of how they were managed.

Remember, the profit on any article of produce is represented by the difference in cost of production and the market returns in cash.

Some sheep breeders are unable to see the faults and imperfections in their own flock, but can't see anything good in the flocks of others.

Once in a while there is a man that depreciates the real good in his own flock and is ready to see merits in other people's flocks.

There is a common-sense way of treating diseases and preventing ailments and keeping a flock on the farm perpetually and free from ailments.

The general ignorance of physical and economic conditions of flock success is the most serious hindrance to-day of extending and re-establishing sheep keeping.

The process of re-establishing the sheep industry are slowly going on in the older States. This is due to the prejudices and false ideas of ignorant, stupid men who would be teachers and leaders.

The outlook for sheep feeders never has been better. Try a few if you have no experience and see how you like it. You can market some hay and grain on the farm in feeding sheep. The farm will be improved by it.

If you expect good results in the next lamb crop, or wool crop, for that matter, you have to see the end from the beginning and work for it wisely and persistently. A man usually gets just what he earns; no more and no less.

See to it that the Winter supply of food is ample and varied. Corn is a cash and high-priced food. Bran, oil cake, or meal, clover, hay, corn fodder, ensilage, roots of one sort or another can be depended on for health and profit.

The surest way of getting the best sort of a sheep for your farm and market is to breed it yourself. It may not have a book pedigree, but it will be apt to have a record of usefulness that you can swear to, which is quite as useful and reliable as anything you can buy.

Since 1890 the number of sheep in the New England States has increased 20,000; in the Middle States, 29,000; Southern States, 178,000; the Western States, 605,000; in the Territories, 262,000; and the Pacific Coast States have lost 609,000 head of sheep.

Nobody believes in luck nowadays, but when misfortune (retribution) comes it seems to let a fellow down easier to call it luck rather than careless (criminal, cruel) management. It is the old dodge to try to put the responsibility on someone else; do they call it luck?

Sheep should be handled carefully and gently. They are timid, reliant, meek animals, and readily appreciate kindness. Except with the rams when frightened, they show no resentment. If sheep are to be handled, crowd them into small pens so they cannot escape.

About the first thing the average sheepman does with a sick sheep is to get it out of sight. He then leaves it to die or get well as it may happen. It usually dies, as he expected; and why? It dies of neglect and starvation; a victim to the stupidity, ignorance, and common opinion among sheep raisers that a sick sheep always dies.

There is quite a little said about improving sheep and increasing the profits of the flock by introducing breeds and strains of blood. This is all right as far as it goes, but unfortunately it stops short of the mark. The most successful flockmen manage the conditions of the farm and flock so that a strain of blood or a breed of sheep is less important than was formerly considered.

In buying ewes for lamb mothers it is necessary to choose ewes that will breed. A ewe that is four or five years old (the teeth may be depended upon to indicate the age), that has not raised a lamb (this can be easily determined by her udder), should not be accepted. She is not a reliable breeder; she is no better than a wether, and should have a wether's fate—the butcher's block.

What to do with a jumping sheep: The very best thing to do is to make the fence better, so that it cannot get over it. If this cannot be done, it will be money in your pocket to kill as soon as fat. One jumping sheep will teach a whole flock to jump, and so become a nuisance. Sheep are not as liable to jump as they used to be. Bad fences spoil real active, vigorous sheep.

The sheep is often the most abused animal on the farm, because it is the least understood. To see how it has to shift for a place and a living you would think it was a nuisance on the place. It is expected to do a great deal for nothing; it is expected to grow wool, to raise lambs, to give large fleeces and carcasses of mutton without care or attention. It can't do it.—*Farmers' Home Journal.*

The importance of a home market is well worth studying by producers. The home market for lambs begins to be as universal as that of poultry and eggs. Nearly every village now has some demand for mutton in one form or another. Producers can increase the demand or create one by introducing and keeping up the supply of a really choice article. No market, as a rule, is so satisfactory as the one nearest your own door.

Mountain ewes are selling in Harrodsburg (Ky.) market at $4 to $4.25. (This is an advance of about $1 over mutton sheep.) The farmer who invests his surplus that way this Fall may reasonably expect to receive $4,50 to $5 on each ewe next Summer, not counting the wool taken from them. If two-year old ewes are bought they can be used about three seasons with profit, and then be sold to Eastern buyers for what they cost.—*The Democrat.*

It is not always easy to determine whether a ram is a breeder or not, and yet there are unmistakable indications to an experienced breeder that are reasonably reliable. If he is fat, lazy, listless, and like a wether you don't want him. The breeding ram must be neither a wether nor a ewe in style, appearances, or spirit. The more vigorous and masculine characteristics should be pronounced in form, size, style, fleece, and movement. Ram should be written all over him; the more the better.

The imports of manufactures of wool for the 12 months ending June 30, 1892, was $35,565,879, as against $41,060,080 in 1891; a decrease of $5,494,201, which is a decrease of 13 2-5 per cent. in the imports of manufactures of wool during the first fiscal year under the McKinley law. As it is estimatd that each dollar's worth of imported cloth takes the place of three pounds of American unwashed wool (though in point of fact it takes nearer three and one-half pounds), the decrease of importations of $5,494,201 in the imports of cloth represents an increased consumption of American manufactures of nearly 16,500,000 pounds of unwashed wool.

Hon. J. E. Russell says, in the *Sheep Breeder and Wool Grower*, that the tariff does not affect sheep husbandry, and that they can raise sheep west of the Mississippi River without regard to the wool. We are sorry this intelligent gentleman has said this foolish thing. It is not a new theory or an original idea, but we have carefully looked up the record of all this sort of hopeful men, and every one of them broke up in the business. They did not know what they were talking about; they did not understand the sheep business at all. It is the old story. A Massachusetts man goes West to teach the heathens of the West how to raise sheep and make money. "'Twas ever thus!"

One of the most successful lamb raisers in Fairfax County, Va., has already replaced the ewes for next lamb crop on his farm. By feeding some grain he finds no trouble in bringing them to the ram in July and August. He says it is a question of condition mainly, and governs it accordingly. By the way, there are a lot of lamb raisers in Fairfax County, Va., who make this secondary to their milk business. Good milkmen are good farmers, and good farmers are good, sensible lamb raisers, sheep feeders, and sheep breeders. The only fault to such men, and this is universal, they are too modest and conservative for any use. They believe in good works, and say nothing about why and how they do things.

It may be that sheep will not be an exclusive industry of American farms, but it is certain to be a prominent factor in the maintenance of fertility and economic agricultural management in this country. No farm is well equipped that does not have a flock of sheep on it; no farmer is making the most of the produce of his farm that overlooks the use of sheep for the purpose of cleaning up lands and gathering up what would otherwise go to waste. By a little forethought a flock, corresponding in numbers with the arable area of the farm, may be kept without cost in the way of marketable products from the farm. Farmers are seeing this, and are carefully preparing for the industry without regard to the theories and experiences of the past. They believe that mutton has solved the problem.

Characteristics of Sheep.

Individuality in sheep is very distinctly marked. There are good ones and bad ones, quiet ones, and nervous, fidgety ones, some that are always at the front, and others that are always at the hind end of the flock tagging along. There are family traits of individual merit and demerit. By keeping a flock register it was found there were ewes that never raised their lambs with any uniformity, if not from one cause, then another was almost sure to take them off. Another family were apt to bring thin, weak lambs, but they were always willing to live, and some attention would bring them to healthy, vigorous sheephood. Still another family would bring great big, lusty-looking lambs that seemed born to die, and disappoint all reasonable expectations. Twins are characteristic of some families. There is also family resemblances by which an expert shepherd may readily identify families and members of families. Col. Mark Cockrell, of Tennessee, one of the most careful and observant shepherds, could pick up an abandoned lamb and identify its mother by the lamb.

Some sheep are strong in their likes and dislikes, and will often display a good deal of cunning to carry a point. Some are voracious eaters, and others are just the opposite. The individual characteristic incidental with breeds and varieties is often very distinctly marked. These characteristics are very interesting to the student, and highly important to cultivator of sheep.

The Use of Sheepskins.

There is not one reason why sheepskins should not be more generally used for wraps, robes, etc. When their skins are properly dressed and cleaned, and, if desirable, a number of them sewed together, they would form a much warmer covering than could be made from any other material. Some might object to the use of them because they smell of mutton. This odor may be lessened by the process of cleaning. Few object to the odor of a Buffalo robe, which is equally pronounced. Mr. George Kennan, the Russian traveler, often alludes in the *Century* to the sheepskin bag in which he was so comfortably protected from the severe cold of a Russian Winter. If desirable, some taste and ingenuity may be used in finishing and trimming a robe of selected sheepskins, or a bag, and when once introduced and used no one would throw it aside.

Rams in Demand in Virginia.

There is a demand for good rams throughout West Virginia, Virginia, and Maryland. The demand is from men who raise mutton. These men are wise and sagacious farmers, mainly truckers and milkmen. They practice ensilage and intensive systems of farming. They are good customers, and stud flock sheepmen should advertise in THE AMERICAN FARMER if they would reach these cash buyers.

To produce the best wool the sheep must be kept in uniform condition. A change of pasture, plenty of water, and salt are essential during Summer for the best results in the production of wool or mutton.—*Farmer's Home Journal.*

Sheep Notes From the Gulf Coast.

EDITOR AMERICAN FARMER: I want to say something about the noble sheep. Our flockmasters are just closing up the shearing season. We are two weeks late this year on account of the cold and wet Winter we had. In the first place, our grass was killed early in December, just before the lambs began to drop. This was most disastrous, as the mothers are left to shift for themselves during the entire Winter. December and January are our lambing season. When feed is poor the ewes have a hard time. We had a great loss of lambs in February by reason of cold rains. Great numbers of lambs were picked up by hogs all over the country. Hence, we will not raise 25 per cent. of lambs. This will always be the result so long as our flockmasters go on in this slip-shod way of taking care of their flocks. I have done all I possibly could to educate our people on the subject, but to little effect. One of my friends has a flock of a few hundred which he claims is about one-eighth merino blood. He cut an average of six pounds of wool, an increase of two pounds, due to that small amount of foreign blood in his flock. Our people persist in the old plan of running their flocks wild in the woods and let all gender together. Still, with all that, some years they clear as high as 120 per cent. on the capital invested; but there is no reason why we should not clear that amount every year. The sheep in this County have pulled through nicely, and come out new at shearing time in good flesh. Our grass was late, but very fine now.

Sheep have all been gathered up in this County, separated, driven home, sheared, marked, and trimmed, and turned out with a kick, and told to go forth and take care of themselves another year, when they will be expected to yield another lamb and wool crop. This is our sheep husbandry. Our grass is so fine that I can hardly contain myself when I ride through the country. It makes one think back 65 years ago, when we used to purchase thin sheep out in the white oak woods of Indiana (they were nearly starved to death) and take them home to fatten on our clover fields.

Here I see millions of acres of fine grazings going to waste for the want of sheep to consume it. We could keep 500 sheep here where now we have not five to eat the luxurious grass.

As regards the crossing and bringing up flocks to make a hardy race of sheep, I would cross the Shropshire Down ram on the large American merino ewe to obtain a proper combination in a mutton and wool sheep. I think I would take that cr ss and select the best of the rams to use on our native Piney Woods sheep. These sheep are the descendants of the merino sheep imported from Spain to old Mexico 300 years ago. I would keep breeding up with that ram and will soon have a flock that will double in weight of carcass and will soon double in fleece. This will make a hardy race of sheep suited to our wants here. We want to increase the mutton and wool and keep up a good constitution.

Our climate is better adapted to wool growing than any place I have ever lived. Here we have no dust. Our south winds come off the salt water and that brings no dust; then, when we get winds from the north, we have a pine belt for nearly 300 miles, and there is no dust from that quarter. Our soil is covered with a full growth or sod of green grass.

I get ambitious sometimes and determine I will start a small band of sheep. Then, again, I consider that on the 23d day of May I was 82 years old, and what is the use? I think of my old friend Gen. Cassius M. Clay, the noble veteran of the Southdown flocks, of Kentucky, and say to myself, it is no use to stop, but plant a tree to-day, even if you expect to die to-morrow. Gladstone still lives and performs some manual labor every day, we are told.

We are getting 22 to 25 cents for Gulf Coast wool, and the clip averages about four pounds to the fleece.

We are getting some Northern men interested in wool growing here on the Gulf Coast, and they will soon infuse new blood into their flocks.

I am confining my labors to land and fruit growing. I have succeeded in selling several fine sheep ranches at Ocean Springs.—W. S.

Notes from my Flock.

EDITOR AMERICAN FARMER: I believe in feeding and managing lambs so that none shall be stunted. I find some difficulty in having all to grow and thrive alike. There are always a few that are away ahead of the rest in size and thriftiness, and there are always some at the lower end of the flock, no matter how hard I try. These stunted lambs are just as well bred, have just the same care, and to all appearances should be as good as the best. Sometimes, I know, it is my own fault, and it may be oftener than suspected. Hereafter I am going to try to find if the fault is not with the ewe. It is a fact that when the mother does poorly the lamb is certain to do badly. I have found out that the mother of a growing lamb has healthy indications—a pinky, rosy skin, active habits, and a good appetite; and the opposite conditions are found with a ewe whose lamb is going the wrong way.

I find that a lamb increases in weight very much faster than an older sheep.

I notice that a lamb that gets a setback before it is a month old is not likely to catch up with the bunch of lambs again. I conclude that a stunted lamb is about ruined.

A practical, and therefore successful, lamb raiser has had an experience in feeding lambs on skimmed milk. He used what is known as a calf feeder—a pail with spouts that come from the bottom of the pail, and have rubber or cloth nipples at the top. Lambs, like calves, soon learn to suck these artificial teats. The milk can be made to carry oat meal, oil cake, and a little meal or bran, as the lamb can take it safely. There is a suggestion in this that recommends itself to the lamb raiser who is watching the corners for a good thing.

One of the most common troubles with "bottle babies" is indigestion, and I conclude the same is more apt to be true of bottle lambs and calves. The English shepherds practice a good deal of common sense in preventing and correcting the evils of indigestion by the use of cod-liver oil. A manufacturing firm has introduced a food on this basis, and sends out a useful treatise on the subject to stock raisers. In my practice hereafter this shall receive more attention.

The subject of constitution has been talked of by sheep breeders ever since the improvement of sheep began. There is everything in it that is claimed, but it has been talked of ignorantly and without the least consistency. A thoroughbred racehorse has a constitution for what it is intended for, and a Norman-Percheron has a constitution for its purpose; so I conclude a man or a sheep varies in the same way. One man has a constitution for vigorous physical work, and another is consituted for sedentary and intense mental work. Then, a sheep will follow in the same way. Then, in pure-bred sheep we may find the extremes in the merino and Leicester breeds of sheep.

I need not expect to find a large, clumsy, indolent Leicester or Cotswold sheep constituted for enduring 10 or 15 miles of travel a day to find enough grass to fill itself. The merino can do this by reason of its constitutional fitness for enduring hardships, hard work, and poor pasture. Hereafter, I shall try to apply this information to my farm and sheep raising. I begin to see wherein I have made some mistakes. They were my mistakes, and not the faults of the sheep I have been using.

I begin to see the importance of healthy, appropriate conditions for the health, thrift, and development of the sheep I choose to use on my farm. Nature has given me some advantages in these things, and I am to improve them by industry and skill. As I am gaining on nature's conditions, I must follow up with improved husbandries and better breeds of sheep and more economical practices.

In an experience of 40 years I find that much depends on the seasons. Here must come in the severest tests of human energy and human wisdom and forethought. The management of such crops as I grow varies with the weather. I cannot farm the same way two years in succession, nor can I expect to handle sheep the same way year after year. This must account for variations in the profits of sheep with me. It has always seemed to me that the dogs were worse during the off years; the parasites got in their work; the rains did more harm; the lamb crop was short, and the wool crop and prices bad on these unfortunate years. Can I do anything to remedy this state of things?—TENNESSEE.

Dorset Sheep Wanted.

J. J. R., Delaware, writes: "Can you tell me where I can buy some Dorset sheep at fair prices? I want good ewes for a practical farmer who lives from the proceeds of 125 acres of Delaware land, and cannot pay importer's prices."

The quickest and surest way to get a healthy flock of sheep on the farm is to sell off the flock, plow up diseased pastures and cultivate them for two or three years to other crops. This advice is given to men who do not know nor intend to learn the nature, cause, and cure of maladies that sheep are subject to.

THE SOUTHDOWN ASSOCIATION.

The Capital Stock to be Increased to $500,000.

At a called meeting of the American Southdown Association, held in Springfield, Ill., on the 23d ult., the capital stock of the Association was increased from $100,000 to $500,000, thus providing for 400 additional shares of stock at $10 each. This increase in the number of shares of the stock of the Association was made necessary because the original 100 shares had been taken by as many individuals, who are breeders of this unexcelled breed of mutton sheep, and other breeders of Southdowns desired the opportunity of associating themselves with the gentlemen who had taken the primary steps, and had so materially advanced the interests of this breed of sheep.

The American Southdown Association was not organized for a dividend-declaring corporation, but with careful management and close economy has accumulated from year to year some overplus of funds. This has been returned the breeders as circumstances seemed to justify, in the way of special premiums offered at different fairs during past years. At present these special offerings are: $1,000 at the World's Columbian Exposition; $250 at the Fat Stock Show to be held in connection with the World's Columbian Exposition, and $115 at the Detroit International Fair and Exposition, Detroit, Mich., in 1892.

By this action in increasing the shares of its stock, the Association invites every reputable Southdown breeder in the country to unite with them and assist in the work of maintaining the purity of these sheep and to collect and preserve their history and pedigrees. This invitation should and doubtless will be accepted by those who are interested in Southdowns, and who will use their best endeavors to see that this breed shall be kept at the front.

Applications for registry received at the Secretary's office indicate that the demand for recorded Southdown sheep was never better than at this time, and for those who have these sheep for sale, an advertisement in the live-stock journals would materially aid in keeping this breed before the people and greatly aid breeders personally and collectively.

Farming Don't Pay—Sheep Raising Don't Pay—Nothing Pays, and Why?

This is suggested to young men. Go and see why so many men are growling about farming. It is possible to learn as much, or more, about good farming from poor farmers as can be gathered from the best farmers in the land. At a Farmer's Institute last week one such kicker was brought to the front and made some startling declarations as to results on his farm. He evidently had some experience. There was significance, however, in his continuing to hold on to his large farm after years of experience, expense, and disappointment. His case was an interesting one for young men to study.

The facts are some men are born kickers, and some men can't make anything pay; they were accidentally born into the world without business capacity.

THE APIARY.

Hummings.

Basswood honey is very desirable. The trees, five or six feet high, may be obtained reasonably from the nurserymen, and will begin to bloom in about four years.

One of the first inducements for keeping bees is that honey is the most healthful sweet which can be produced. The farmer who does not keep bees loses more than he thinks.

Bees are often charged with injuring grapes by cutting the skins and sucking out the sweet juice. It is not probable that this is done, but we are quite sure that they are able to do it.

Competition in the bee business need not be feared, as pure honey is always salable at a remunerative price, and even the pleasure of having it for the table will pay for the trouble and time needed.

Don't think of keeping bees without handling them, and knowing the condition of every hive. It takes pluck and courage, and a good deal of hard work, but there is also much pleasure and profit in it.

White clover stands first as a honey plant, and linden second. The blossoms of the latter are peculiar. They are yellow in color, and arranged so that the nectar is easily gotten by the bees, and they can load up quickly and heavily.

The best method of feeding bees in Winter is to give them a frame of honey. All colonies do not consume the same amount of store, so that enough combs may sometimes be spared from those which have plenty to supply the needy.

If you wish honey to retain its flavor and richness, don't keep it in the cellar, but in a dry, warm place. If there is a fire in the room, all the better. You will say your cellar is dry, but there is no cellar dry enough to keep honey in. It quickly absorbs moisture, and becomes thin and watery.

The use of salt is the best way to keep moths out of the comb. The combs should be held in the left hand and the salt thrown over the sides with the right. If this is not put in a dry place and shut in a tight box the salt may melt, and then it will injure the combs. When ready to use the salt must be shaken out.

For beginners the first trouble is likely to be in the swarming. If preparation is made for it the bees may be managed and controlled without difficulty. It is an old delusion that beating on pans and bell ringing is necessary. By the use of a simple apparatus the bees may be collected and placed securely in a hive prepared for them.

It is said that there is less honey on the market now than at any other time since 1877. The scarcity is throughout the Eastern, Western, and Southern States, and is caused mainly by rains, drouth, and cold. Nor are the prospects for a late yield promising. If this is true, it follows that good honey will command the best of prices.

Owing to late rains I feel confident now that the bees will gather plenty of honey and go into Winter in fine shape, but, taking Texas as a whole, she will not be able to report a half crop of honey. The lateness of the Spring and too much cool, rainy weather in early Summer is the cause.—JENNIE ATCHLEY, Floyd, Tex.

I see that THE AMERICAN FARMER is interested in bee culture, and am pleased to send you in a report from this State. My bees have done but little up to this time on account of frequent rain. They are the gentle Carniolans from Mr. E. L. Pratt, of Beverly, Mass., and I keep them on an island near the gulf.—W. B. SPEAKING, Punta Gorda, Fla.

In this (Emery) County bees do very well for those who will tend them. My bees have for the last four years averaged 160 pounds of extracted honey per colony per Summer, Spring count, with some increase. This honey is mostly from alfalfa and some sweet clover, and is found to be the best-flavored honey in this Territory.—JOHN ZWAHLEN, Ferron, Utah.

In gathering nectar bees do much toward fertilizing plants by carrying pollen, but it is thought that this office was not specially intended by nature for them. As a proof, the fact is given that there were no bees in the State of California before its settlement, and that the first hive was carried there; yet the most beautiful plants bloomed and produced seed without the cross fertilization of bees.

The Government has been slow to recognize the importance of the bee industry, and strange to say the bees themselves have attempted to push the matter. A swarm has taken possession of a vase on a tall column at the main entrance to the Agricultural Building. Since they have forced themselves on Uncle Jerry's notice we hope he will give them more of his valuable attention.

New Hampshire beekeepers have not had a prosperous year, for the weather has been unfavorable from the very earliest Spring. No better honey can be produced in any State than in New Hampshire if conditions are favorable. The black bees are preferred to any other race, and the portico hive is most used. We estimate that there are 2,000 swarms of bees kept in New Hampshire.—A. D. ELLINGWOOD, Groveton, N. H.

Last year I took about 75 pounds of honey per colony, and could have taken 100 pounds, Spring count, if I had been able to personally superintend the work. This year they were storing so little that I have not taken a pound from them, and I do not pretend to account for the deficiency. The abundant bloom did not seem to secrete much nectar.—C. WEEKS, Clifton, Tenn.

Prof. A. J. Cook, of the Agricultural College of Michigan, thinks that every State should pass a law prohibiting the spraying of fruit trees while in blossom. Such a practice is certain death to countless bees, and it cannot benefit the fruit in any way. If this law should be passed it would undoubtedly have some effect by calling attention to the practice, and many who have given no thought to it would be convinced of its folly.

VENTILATION.

A Matter of Importance to Successful Beekeepers.

EDITOR AMERICAN FARMER: The air in the beehives is a compound of gases. We cannot see the air, but we can smell it. When we open up a hive full of bees we can observe its power by its pure or offensive odor.

The air is a fluid which surrounds the bees on every hand, and it has a very important part in their health and growth. It is found to be made of the union of two invisible gases, called oxygen and nitrogen. It has also at times other things mixed with it, but not a part of it, such as water in an invisible vapor in Winter, and other gases in Summer. Without fresh air no bee can live. Ventilated hives take from the air poisonous gases which bees throw off from them, and give back to the air what bees need for their good. So we see pure air in hives is the means of preventing foul brood and contagious diseases.

Bees in breathing the air use up the oxygen and throw off a poisonous gas called carbonic acid. A ventilated hive takes up this carbonic acid, which is carbon and oxygen, expels the carbon under the partition boards and receives the oxygen through the entrance of the hive.

Water is composed of two gases, oxygen and hydrogen, one part of the former to two of the latter. It composes four-fifths of the flesh and blood of the bees, and they use up large quantities. Water, then, inside the hive in this form constitutes an invisible vapor that is taken up by the atoms of the atmosphere.

The property of all air is to rise when heated; hence, whenever air in any hive becomes heated inside from the natural heat of the bees, or on the outer surface from the heat of the sun, it ascends, and in so doing it meets with the cooler currents which surround the cluster; the invisible particles contained in it will condense into larger particles and adhere to the inner walls of the hive and on the combs next to the walls. After the atmosphere outside becomes warmer the force of the ascending warm currents meets the congealed vapors and they fall to the bottom of the hive in the form of water. This water must be gotten rid of.

Water has a great love for other substance or they for it. Among the substances may be mentioned ammonia and carbonic acid, which promotes the growth and composition of plant spores.

Let us see then what we can learn of the ways in which the foul brood spores get their food, make their growth, and mature their seeds. Foul broods is a sporadic disease, in my opinion. Spores, like animals, are living things. We do do not know exactly what this thing life is, but we can tell dead brood, that is when life is gone. If we take a powerful microscope we will find that the water in the pollen and on the combs of foul brood is full of living things we cannot see with our naked eye. Many of these we can see are animals and many others we see plainly are plant spores, and then we find some that we cannot positively assert are animals or spores; but we see they are all living and growing, and we find among them very minute forms, some of which are so small that 150 of them placed end to end would only make a line the thickness of the paper on which I write. We find then that in these small things, all of which live, no distinct line between animal life and vegetable life, and we conclude that life in spore plants and animals is the same thing, except that it shows itself in different ways as the spores and animals get larger and better developed.

The spore is a living thing, taking food and digesting it and making growth. It is destitute of the power of moving about like bees or animals, and in many ways a fully-developed sporule is very unlike a fully-developed animal. The sporadic life is the means by which spores are enabled to get food from the pollen. They can use matter in the pollen and combs, and water and air, to live and grow upon, but not until it is in a shape they can eat. We see then without this damp, moldy comb and pollen there would be no spore life in the hive. Bees carry these spores on their legs and bodies, and spread the disease.

It is then very important that the hive be ventilated in a proper manner to maintain pure warm air. Some call these minute particles spores, germs, microbes, and fungus. The only remedy for foul brood is not to have it, and you will always have it in unventilated beehives.

Thus spores, microbes, germs, or fungus, or whatever they are, when dry are like thistle seeds, and, like dust, will scatter everywhere.—J. W. TEFFT, Buffalo, N. Y.

How to Start Beekeeping.

Beekeeping requires a certain amount of scientific knowledge, and beekeepers must be intelligent and studious. A manual would give sufficient information with which to start, but the beginner must acquire most of his knowledge by practical experience. It is best for him to start with a frame hive, having a glass in the back of it so that the workings of the bees may be seen and watched. This sort of hive holds a number of frames, in which the combs are built and upon which the cells are formed. The frames are movable, and may be taken out for examination at any time. The successful management of a hive depends greatly on the knowledge of the three kinds of bees, and especially the queen, which always leads a swarm and controls its movements.

To begin, then, purchase a hive with a stock of bees, and be sure to have movable frames. A good manual will explain every detail of the work. Get either Quinby's or Root's, and you will have no difficulty. Beginners are always afraid of being stung, but confidence comes with practice. Quiet, deliberate movements are necessary. If you have been working around the stable, don't go among the bees, for they dislike the smell of a horse, and the smell of tobacco also irritates them. For such reasons as these, women very often make the most successful beekeepers.

PROFITS IN BEEKEEPING.

What Constitutes a Model Apiary—The Growth of the Bee Business.

EDITOR AMERICAN FARMER: In all the various industries that go to make this earthly sphere one of thrift and prosperity, beekeeping has heretofore been looked down upon with much impunity from the higher arts and industries; but the time is now well here when he who keeps the largest number of colonies of bees is looked up to with the same degree of respect that the cattle king or the land shark is. But in the great field in which we are now camped, so to speak, there are a great many who are only a detriment to the industry. I say this from personal observations and a sense of feeling for the betterment of the cause.

Beekeeping, as I have said before, comes under the head of one of the great and profitable industries of the world; yet how often we hear the sneers and jeers slung out that that man is shiftless, or downright lazy, and all because he spends a few hours each day in the apiary attending to the wants of this tiny portion of the insect world. Now, I ask the question, is there one who will not say that the bee gives us better returns, generally speaking, for the money invested than does the cow that feed upon the finest of hay and crops off the growing grass; or let us take the cost of a horse, if you please. Paying out a hundred dollars for the horse, we have to work him almost to death to get the money invested in one year, besides the amount the feed has cost us. Counting all this, let us take the apiary, and see what returns we are apt to get in one year for $100 spent. With the money we can buy, say, 10 colonies and sufficient hives to put the increase in, with the needed foundation and sections. In the season we spend two hours each day for three or four weeks in the care of them, and if they are in the alfalfa belt of the west you can, about three years out of four, count on 20 new colonies, and you can count on 48 pounds of surplus from the 10 old ones and one-fourth the young, and 24 pounds from the balance of the young, making a total of 900 pounds of surplus honey, and then you have the bees left—30 colonies—valuation $4 each, $120, and the honey you have sold at 12½ per cent., $112.50, making $232.50. Thus you have cleared with, let us say, one month's work $132.50, besides the bees remaining.

Taking everything into consideration, the bees are a very profitable thing to keep on the farm. I am speaking from experience, in my own case, and from the testimony of others. Now what constitutes a model apiary, I want to say, is good hives, good prolific queens, and good pasture; the arrangement of the hives in the yard is left to the apiarist's own judgment. For my part, I want my hives set about six feet apart in the row, and 12 feet of space between the rows, and I want my hives to all face the east. Another great and needful addition to the apiary is a small cart or hand wagon in which to haul the full sections from the hive to the honey house, or extracting combs, as the case might be, and then last, but not least, comes that great labor-saving, non-irritable little device, the bee escape; of these there are a great many different kinds now in use, but in my opinion there is none so good as the Porter spring escape. I have it in my yard, and consider it par excellent in all its parts. It is now a pleasure to take off honey and not have to sweep bees and take the stings, as is generally the case when taking off honey.

In concluding these remarks, I have one more point to touch upon as to my favorite hive. This is the Root dovetailed hive, taking eight L frames and having section holders in the supers with a follower and wedge to hold the sections to their place. All my combs built out this year on the thick top bar with horizontal wiring and medium brood foundadation I can say are, without a doubt, the nicest combs I ever saw, as true as can be, and as smooth as a board. They come out as if they had division tins between them.

Another thing I have tested this Summer has been the wiring of my frames, the putting in of starters and letting the bees build around the wire by guess. In nine hives I tested I have got but one bad comb, and what caused this I am as yet unable to tell. I am testing six different kinds of hives this year, and I can say truthfully that this hive with horizontal wiring and medium brood foundation in the brood frames are giving better satisfaction than any of the others.

"Thou cheerful bee, come freely, come,
And travel round my woodbine bower;
Delight me with thy wandering hum,
And rouse me from my musing hour.
Oh! try no more those tedious fields,
Come taste the sweets my garden yields;
The treasure of each blooming vine,
The bud and blossom all are thine."

—T. V. JESSUP, Greely, Colo.

The Woman Beekeeper.

EDITOR AMERICAN FARMER: As there are "salesladies" and "waiting-ladies," perhaps this article ought to have "Lady Beekeepers" for a title. But while it is true that every woman may be a lady in the American sense, and ladylike in every sense, yet "woman" is an honorable name that may be applied to any woman whatever her occupation or position.

There is a place for the woman beekeeper in the world's industries as shown by the success attained by several of her sex. Not all women, any more than all men, can, if they wish, be beekeepers. Some persons have a decided aversion to bees, and these persons believe that the bees have equal aversion for them.

This is not true as far as bees are concerned, although it may be true of some men and women. The odor of persons and things is responsible for some of the hostile movements of bees. A disagreeable odor will or may excite the bees and cause them to sting. A beekeeper had a linen duster which he wore when he curried his horse. Whenever he went among the bees with the linen duster the bees appeared to resent it. It is probably true that the odor of a horse, especially of a perspiring horse, is displeasing to bees.

There are several classes of women that would be benefitted by beekeeping, one of which, a large class, is composed of women working indoors and who, by the advice of physicians, must obtain, if possible, more active employment and be in the open air a part of the time at least. There is another large class of slender means, perhaps, now in the country, on farms may be, and in villages, who wish to do something toward their support—daughters who cannot remain idle, who dread the city, and whose parents wish to keep them out of the city—wives and mothers, too, who find country life, especially life with limited means, narrow and monotonous. In all cases there is a desire to increase the income, and in a great many cases a desire, also, for something that will change the routine and relieve the monotony.

Beekeeping has proved to be what many women wanted. In some respects women may be better keepers of bees than men; they have a finer, gentler touch of hand than men, a feature of bee handling that is very important. What is required is nerve, and strength and power to control it, and steady, firm movements in all manipulations.

The science of beekeeping cannot be unfolded in this article, but let any and every man or woman who intends to keep bees give one year or one season to careful study and apprenticeship without regard to profit in money. This will be the most profitable in the end. A great many, thinking that anyone can make money in beekeeping, have bought several colonies, in some cases, a dozen or more, and without any previous experience expected to make a great profit the first year. The result in most cases, if not in all, was disappointment, and often abandonment in disgust of beekeeping forever.

All beginners learn that some time elapses before they reach the "confidence point." Some of the noted beekeepers of the country have declared in print that they thought that they must give up beekeeping before the end of the first season was reached, because they had not acquired confidence, and the bees knew it, and were masters. But there came a change; the confidence point was reached; the bees recognized it and yielded willing obedience. Then the whole aspect changed and all was plain sailing.

Let every beginner procure three colonies of Italian bees and study them for one season, work over them and get acquainted. One colony is not enough, for it may be exceptionally good or poor, but three will give, probably, average results. If the three colonies swarm, and they may, if strong, and if the season is favorable, there will be six colonies with which to begin the next season, and 12 the following season if the six swarm. If it was certain that each of the three colonies would swarm, it would not be necessary to begin with three colonies. But that cannot be depended upon; in fact, the probability is that all will not swarm, so much do they differ and so differently are different colonies affected by the weather and crop conditions. Some colonies will swarm out when a little honey is coming into the hive, while others will show no sign of swarming when the largest flow of honey is coming in.

As to the profits of beekeeping, much has been said and written that is misleading. There are no great profits in it except to the few, like any industry, but there may be an income that will be supporting or contribute largely to support; and, considering what comes with beekeeping, namely, health and vigor, and also what may be carried on in connection with it, several small but paying industries, it is worth a trial by those adapted to it.

A beekeeper obtained last year from 14 colonies 1,300 pounds of honey. With the double-hive system, when extracted honey is the only product, 50 to 100 pounds is not too much to expect from each colony, and by this system there is the least manipulation of the bees, the least disturbance of them. — JULIA ALLYN.

Bees Sense of Sight and Smell.

EDITOR AMERICAN FARMER: Although the bee has a head full of eyes, yet it appears often that he does not use them. If a board be placed in front of a hive an incoming bee will run against it with such force as to fall to the ground and appear for a moment stunned. Not all will do this; some will fly around it. But why do not all see the board a foot wide?

Again, if a hive be moved its width to one side, incoming bees will not discover that the hive has been moved till they fly by it. It is said that the bee returns to its hive by instinct—by some agency other than sight. But why does the bee run against a board or fly by its hive when only 18 inches out of the way?

A beekeeper, bending over a hive, rested a forefinger on the alighting board of the hive. If the finger is clean and has no odor, the bees pass it going in and out of the hive within a quarter of an inch of it and apparently do not see it, for they do not stop to investigate. Only those that run against it notice it if kept quiet. If, however, the finger is unclean or has any odor, the bees were attracted at once.

The bee appears to be guided in great measure by the sense of smell. When they flew by their hive they awoke apparently to the fact that their home had been moved and began to search for it. If the hive stood alone some distance from other hives, all the bees found it quickly. If other hives stood near, some found it at once, while others went to the next hive. In either case, the bees flew down to the entrance and hovered over it like robber bees. Why did they do this? Simply to discover by the sense of smell whether that was their hive or not. Of course, if they were detected by the occupants of a hive not their own they would be repelled. That would be another sign that they were knocking at the wrong door. Thus repelled by the acts of the bees not of their family, or by the odor, they found their own hive, although they may have gone to a dozen hives before reaching the one they were in search of.

In spite of all that may be said of the apparent blindness of bees on some occasions, it has been demonstrated that bees distinguish color. If the hive moved had been of some distinctive color, different from that of any hive in the apiary, the bees would have found it more quickly. There is no question that bees have the sense of sight, but, as described, they appear often to be guided by something in which sight takes little or no part.—JULIA ALLYN.

THE DAIRY.

Skimmings.

There are millions of bacteria in every pint of milk. Warm weather is favorable to the development of these, and they change the sugar into lactic acid. When this change has taken place we say the milk is sour, and since a low temperature retards the growth of the bacteria, it is well to keep the milk in a cool place.

From an experiment in feeding corn silage in comparison with dry cornfodder the following comparisons are reached: 1. A daily ration of four pounds of hay and seven pounds of grain feed, with corn silage or field-cured fodder corn *ad libitum*, fed to 20 cows during 16 weeks produced a total quantity of 19,813 pounds of milk during the silage period, and 19,801 pounds of milk during the fodder corn period. 2. When we consider the areas of land from which the silage and fodder corn are obtained, we find that the silage would have produced 243 pounds more milk per acre than the dry fodder, or the equivalent of 12 pounds of butter. This is a gain of a little more than three per cent. in favor of the silage.

DAIRY FARMING.

The Good Effects Attained by the Industry are the Best to Keep the Farm Fertile.

EDITOR AMERICAN FARMER: In former articles I have simply called attention to the direct benefits that may result from the dairy when thoroughly and systematically done by the aid of silos, ensilage, and soiling to supplement the pasture grass for Summer feed and hay for Winter feed. I have tried to point out the way to produce milk at its minimum cost, and have not stated an impossibility for the general farmer to perform because for several years past I have done successfully on my own farm all that I state can be done by others.

My writings have been criticised of late by other farm writers on this dairy subject, and at first they thought I did not fairly present the cost of milk, and was too positive against the purchase of high-priced mill stuffs for feed to cows from which the result was to be obtained. Examination and discussion of the subject adds no new light to the statements I made of the cost of ensilage, hay, and pasture grasses. Although milk may be produced in cities on the high-priced grain feed and sold for a profit above cost, it does not controvert the fact that it is not the best or most successful farming and that it is not in harmony with the spirit of this age.

We must produce for less cost. This remedy for hard times is within our easy reach, and competition brings it home to us for daily practice. There is another consideration of this matter that I desire to present. We should make this world better from our coming. The soil upon which we farm should grow more fertile. It is all wrong to work devastation and ruin for the future multipled population to recover and correct. The most successful crop raising to-day leaves land in better condition than we find it, and no single agency lays the foundation for it more truly than the cattle or dairy industry, with silo and ensilage farming. We have a few farms here in Ohio that have been brought up to that high point of fertility from the increased quantity of manure made upon them by this system of farming. That the possible supply need not be used on wheat, barley, rye, or oat ground is evident, because we now have too rank growth of straw, and it falls down before the grain is filled and ripened. It is a hard matter to get land too rich for corn and the potato crop. They will bear generous feeding of barnyard manure to grow these crops. The actual supply of manure, however, has compelled the increase of acreage of fine grains on our farms, and in a few extreme cases the surplus is now being used liberally for top dressing of pasture land.

On good land we think it possible to keep an average of one animal to the acre of land. Modern farming, however, requires from three to four acres of land to each animal. It is to reform this great mistake of farmers that we now write, and at the same time practice what we preach, and will state no impossibilities.

I realize as much as any man that it is a hard problem to solve for man to come into the world naked and poor, and from intelligence, economy, and industry acquire land, and at the same time pay the debt due to Mother Earth, as above stated, leaving the soil more fertile than we find it. But it can be done easier than ruin can be submitted, too. The growth of extra vegetation which can be utilized for fertility of our soil that comes in the rotation and line of dairy farming we advocate is wonderful. The red clover here in northern Ohio, which we use for meadow hay, furnishes more actual tons of clover roots from one year's growth than the second crop of rowen, and when we turn that sod ground under to grow upon it our corn and potato crop we are almost absolutely sure of excellent results.

From this we grow immense crops of ensilage corn, and from these we keep the large herd of cattle that furnishes annually about 300 loads of well-rotted barnyard manure to every 50 head of cattle kept and Wintered on the farm. This is a safe calculation to be made on all good land, and more than this is possible on rich black loam soils that are natural corn beds without higher cultivation.

I mention corn as the ensilage crop, from the fact that greater tonnage of it per acre can be grown in every State of this Union than any other single crop. Of course, millet, rye, oats, cow peas, clover, and various crops may be safely used for ensilage, but from none of them can so much food per acre be grown or done at so little cost for its food value as the largest variety of corn in any locality that will nearly or quite grow to full maturity. Its harvest and filling of the silo comes at a very seasonable time not to interfere with other regular crop work of a farm.

This matter is worthy of consideration, and I trust that farmers will do themselves good by adopting this system of farming. Some will, I know, for I have already received letters of most anxious inquiry from readers of THE AMERICAN FARMER asking for some special item of information, and informing me they are going to build the silo and try it, who might not have done so for a long time to come had they not had their attention called to the matter in this paper.—H. TALCOTT.

THE DAIRY COW.

Judicious Use of Food the Most Important Factor in the Improvement of Stock

Prof. I. P. Roberts, of Cornell University, read a paper before a recent convention of Ontario (Can.) dairymen. He showed that the great improvement in dairy stock is mainly due to the food used, and as his discourse is apt to be interesting to our dairymen readers, we make a few excerpts. He says:

Improvement is simply another term for making plants and animals vary—vary for the better; and improved and increased food is not only the great factor always at hand to the farmer for producing specialized improved qualities, but it is the one which is likely to give the greatest results from the least expenditure of money. Good and sufficient food may do great injury in the dairy as well as great good. In fact, the more concentrated and the better it is the more likely it is to injure both cow and calf when in inexperienced hands. Poor and insufficient food works marvelous changes for worse even in the hands of the most skillful feeders.

Suppose some of the best specimens of our highly-improved breeds of dairy cows be taken to the pine woods of the Northwest, some to the sparse pastures of the plains, where it takes the grass of 10 to 20 acres to maintain one animal, some to the abandoned sedgefields and mild climate of Tennessee, some to the cane-brakes of the forests in western Mississippi and there left to secure their own food, what will be the result? In all of these different environments the loss of milk production will be immediate and very great, and no amount of valuable inherited qualities can save these animals from sinking to the exact level of their food supply in a few generations. The animal that has produced when well fed 12,000 pounds of milk, or 400 pounds of butter when fed on pine straw, cactus, sedge grass, or cane-brake produces scarcely one-fourth that amount, although the climate may be equable and milder than the one in which the larger amount was produced. Infuse each year, if you will, the best of new and improved blood, still the standard of production cannot rise above the standard of the food which the animal consumes. The quantity being scant and digestibility of the food poor the product must be low, no matter how high the breeding or how comfortable the environment. Give these same animals abundant and suitable food, and they will continue to give large quantities of milk, though the climate may be more rigorous and environment not of the best. Stable the animal in comfortable quarters and continue to feed on the cane-brake and pine straw, and still there are no better results than if the animal had been allowed to run at large—often not as good.

Take native animals to the manner born and change their food to succulent roots, clover hay, oats, and corn in abundance, and immediately they increase in production, some more, some less; but all begin to specialize in some direction or other, and this improvement will show, though no change of environment has taken place. Beginning with the cow of the cane-brake, it is only a matter of five or six generations of scientific feeding before a good cow could be produced. It would not be wise to begin our improvement with so poor an animal if a better one could be secured, but in case poor ones were the only ones available, then by judicious feeding alone, without any admixture of blood and without improving the climate, fair success could be attained. It would not even be necessary to make any selection in order to accomplish the end sought. That the end sought would be reached more quickly by eliminating the poorer animals is true, but it is none the less true that if the food of an entire family or species be improved all the animals will share in the improvement, though not alike.

I now have in mind four of the finest bred and most promising heifers of New York, heifers which have inherited great milking tendencies through a hundred generations and a thousand years, utterly ruined before they had reached two years of age by unscientific feeding; that is, they were fed for beef and not for use in the dairy. This is only one of a hundred cases which I have observed. My neighbor is breeding Hambletonians, which, as you know, are a small variety of horses. He has the same foundation stock as his neighbors who are breeding the same variety, but by increased and improved food alone, with correspondingly increased exercise, he is producing an animal at least 20 per cent. larger and stronger at two years old than can his neighbors, and these animals sell for correspondingly larger prices. Theodore Lewis, the great authority on swine breeding, at Lockport, N. Y., last December, said that through partial starvation and injudicious feeding of a pair of pigs which he sent to one of his customers, the owner in a single year had starved out all the thoroughbredness which he had been 10 years feeding them. Here is another illustration of the fact that the greatest factor in improvement or deterioration is food.

A variety or sub-breed can be made in three or four generations if rigid selection is practiced and strictly scientific feeding is adhered to from the beginning till the close of the animal's life. Five years since I purchased a three-minute trotting mare. She was but two and one-half years old. I soon concluded that she was too light to go alone on the Ithaca hills, and so purchased a mate for her. The double carriage being heavy, I thought to enlarge my team by making them fat, and they have been kept fat to this day. The result is I have a team which possibly could be trained up to a six-minute gait, but not more. Notwithstanding I bought trotters, I fed them according to the law of the slow-going carriage team, and the food was superior to breed in fixing the characteristics of my team. And so it is not only with the calves, but with the cows to nearly the same extent. Food can improve change, and ruin them, according to the way it is used.

THE GARDEN.

Pluckings.

When potato vines and foliage are kept strong and healthy for three or four weeks after the blooming time, there is little danger from blight.

Strawberries could be grown in Winter if given the attention which hot-house plants receive, and, further than that, they might be worth from $3 to $5 a quart.

A most excellent remedy for the striped potato bug is said to be air-slacked lime and wood ashes mixed. Sprinkle on the vines while they are wet with dew.

Occasionally we hear of successful plantings of asparagus in the Fall. Losses are not apt to occur if planting is done just as the shoots are coming up in the Spring.

Cut out the blackberry plants affected with yellow rust and burn them, then spray the healthy plants in case the spores have reached them. The copper solutions, if used in time, will keep in check such diseases.

Among our native plums and cherries there is still a wide field for improvement. They should not, as in many cases, suffer from neglect, but be made the most of by the growers as well as the Experiment Station Horticulturists.

If you wish to be a successful potato grower, attention must be given to every detail. Plant only good seed in good soil. Dig when thoroughly ripe, and store in a cool, dark cellar, or in some place arranged for the purpose.

No plant can thrive if it constantly loses its leaves, and rhubarb plants are often made weak by pulling off the stalks. Enough should be planted to allow some to grow a whole season without being disturbed. Of course, early stalks are most prized, so it is well to plant on a southern slope.

Experiments have been made at the Michigan Experiment Station with regard to transplanting onions. Those not transplanted yielded, with three different kinds, 216, 172, and 110 bushels to the acre, while the same kinds with transplanting yielded 548, 296, and 556 bushels per acre, or more than twice as much.

Experiments have proved that the gooseberry mildew is one of the easiest fungi to destroy, and since this is the case the gooseberry should rank high among American fruits. The disease soon yields to copper solutions, which should be applied until the fruit is half grown, and after that use potassium sulphide.

A French potato grower who planted the seed whole, cultivated deeply and fertilized liberally, claims that he grows 42 tons per acre. He also soaks his seed tubers for 24 hours in a solution of six pounds of sulphate of ammonia and six pounds of nitrate of potash in 25 gallons of water, and lets them remain out 24 hours longer so the young germs may have time to swell.

The Catawissa is a Fall bearing raspberry, and good of its kind. In the Spring the canes are cut off close to the ground before growth commences, and as a result young, vigorous canes grow, and are ready to bear fruit the same Summer, sometimes as late as September. All kinds of raspberries require deep and rich soil, and should be cut back almost to the ground when planted, whether they are Fall bearing or not.

The remedies used for the cabbage and radish maggot should also destroy the squash maggot. It is recommended by the Colorado Experiment Station to remove the dirt from about the stem of the plants every few days during the egg-laying season and replace with fresh soil. Dilute kerosene emulsion, strong tobacco tea, or even insect powder put about the stems every two or three days would go long ways toward destroying eggs and young worms.

A remedy for the currant worm is said to be "sifting fresh wood ashes on the bushes in the afternoon and again late in the evening," but it must be added that it is hard to reach the worms in this way, as they cling to the underside of the leaf. Powered white hellebore is the best. Currant bushes should be well examined in August and September, and all infested canes cut and burned. This repeated annually is the only effectual way of getting rid of the grub.

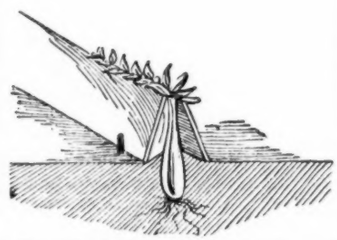
Hall's Island, opposite the coast of South Carolina, comprises 1,300 acres of land, and is owned by two Boston men. One hundred acres of it is planted in asparagus, and 200 acres more are to be planted with it next Spring. The crop is first harvested in March, when it is sold for $1 per bunch, and the average shipment throughout the season is 40 dozen bunches per day. Altogether about $15,000 worth was shipped, and when the 200 other acres are cultivated the income will be a fortune to the owners.

If you wish to save eggplant seed, let the fruit remain in the garden until perfectly ripe before gathering. If the pulp is soft scrape it all out, together with the seed, into a barrel. Stir every day until the glutinous coating about the seed slips off, and throw the seed into clear water. They must then be worked out, and plenty of water used. Dry them where there is a good circulation of air. It is well to add a little water to the pulp when it is put into the barrel. Examine every day and stir often to prevent mold from forming on top, and you can easily determine when it is time to wash them. The good seed will fall to the bottom when separated from the pulp.

Many of our wild fruits are disappearing with the destruction of our forests. Species once found in the Eastern, Middle, and Southern States are now only found in the West. There used to be, when the country was first settled, plenty of fruit for the settlers. The following extract from a letter written by one Wm. Wood, of Massachusetts, in 1629, shows that there was no scarcity of it, and all was of a sort capable of being made better with care and cultivation: "There are strawberries in abundance, varie large ones, some being two inches about. In other seasons there are gooseberries, billberries, raspberries, hurtleberries, and currants, which, being dried in the sunne, are little inferior to those that our grocers sell in England. The vines afford great stores of grapes, which are very bigge, both for the grape and cluster, sweet and good. The cherrie trees yield great stores of cherries, which grow on clusters like grapes; they be much smaller than our English cherry, nothing like so good if they be not fully ripe; they so furre the mouth that the tongue will cleave to the roof, and the throat wax hoarse with swallowing those red Bullies. They are as wild as the Indians." (Probably they were *Prunus Virginiana*, or choke cherry.) He further says: "The plummes of the country be better for plummes than the cherries be for cherries."

Blanching Celery.

In the culture of celery the most important points to be remembered are to keep the ground mellow and keep the plants in growing condition. The frequent use of the wheel hoe, horse hoe, and steel rake are advised The most common method of blanching is earthing or banking. This is done gradually in two or three operations. The soil is dug from between the rows and banked around the plants, leaving the tips only above ground. Another way of bleaching is by means of boards. The plants are first "handled" in the usual way. That is, to thoroughly loosen the soil near them by plowing a narrow furrow on each side of the row or by drawing soil up to it by means of the hoe. Boards 10 inches wide are then set on edge against the row on each side, leaning together at the top, and held in position by strings, clamps, or pegs driven into the ground, as in the cut. Early in the season celery bleaches beautifully in from two to three weeks after boarding, and is then ready for market. But later it will take four or five weeks, perhaps even more.



Instead of pitting, keep it dry and under cover, for it may be attacked by a parasite which has a great appetite for celery, and can reduce it to a black pulp in a remarkably short time. A good way is to pack in barrels and keep in the cellar, then there will be very little escape of moisture from the stems or leaves. Water is destructive to it; it must be kept perfectly dry.

Save the Potatoes.

What is to be done, when even good potatoes, one of our most important articles of food, are a scarcity? The potato beetle, by eating off the tops, deprives the tubers of an important source of nourishment, and also leaves them without shade, so that they are sunburned through the soil. Very often added to this evil is potato blight, and between the two there is little wonder that the good, old fashioned, perfect potato has become almost a thing of the past.

Potato blight is caused by a development of fungus upon the foliage, which scatters spores upon the soil, and these in turn are washed down by the rains to the tubers, which become affected and rot. Our one hope, both for the beetle and blight, lies in spraying. To control the blight the seed should be planted deep, for it will do best in a cool, moist soil, and the foliage must be kept in a healthy state. Then copper solutions must be applied. Bordeaux mixture is good, but it is said that the ammoniacal solution is equally as good and less expensive.

Three ounces of carbonate of copper and one pound of carbonate of ammonia, reduced with two quarts of hot water and added to 50 gallons more of water, are the proportions for one acre, allowing for four applications, which are sufficient for a season.

The ammoniacal solution is generally used stronger, but if put on in the finest mist it will be just as effective when used in 50 gallons of water as in 30, and the danger of burning the foliage is avoided.

Another Word for Spinach.

It has been said before that spinach is worthy of better cultivation than it receives, and here are a few directions for growing it:

It can be grown as a Spring, Summer, or Autumn crop, but as it is mostly required for early Spring, it should have a sheltered situation. Select any piece of vacant ground and prepare it in September by working in deeply plenty of stable manure, then make smooth and level. The seed should be sown thinly in shallow drills from 12 to 16 inches apart. For an early Spring crop sow early in September. Thin the plants out to four inches apart when they have formed their second pair of leaves. They then require but little care, but the hoe must be kept in use that the weeds may not grow. When the ground is frozen a light mulch should be given the plants. Let it be enough to cover them.

Late Vegetables.

This is the season to care for the late crop of vegetables for Winter use. Sow Strap Leaf turnips; they will grow quickly, and can be sown up to the 10th of October. Kale and spinach should be sown at once. Of spinach, the Norfolk Savoy and Viroflay are the best, and the Dwarf Curled Scotch is the best kale, though it is not so hardy in the North as the Siberian or the Dwarf German. In Southern gardens, cabbage plants should also be set out now. Low, moist land is the best for them, and if good plants are selected and set early in September, they will grow better than those set earlier and exposed to the sun.

Mulching.

There are greater advantages in mulching than most farmers realize. It keeps down weeds around berry bushes, and adds to the humidity of the soil. Thorough culture will have about the same effect; that is, if the soil is rich enough in the first place. A writer says that he has applied surface mulching after the first hoeing of sweet corn, pole beans, and other vegetables, with complete success.

THE ORCHARD.

Cullings.

The way to dispose of the surplus grape crop is to put in cold storage.

Japanese fruits have proved of great value in many sections of the United States.

The leaf of the banana is usually six feet long and two feet wide, and the flowers pink in color.

It is said that 1,000 thriving coffee trees will yield an average of 3,200 pounds of coffee annually.

When in a pear orchard leaf blight seems confined to a particular kind, it is better to chop that sort down and replace with a blight-proof tree. The Tyson seems particularly effected by the blight.

Connecticut is one of the few States which reports a fine peach crop. The famous orchards of Mr. J. H. Hale will of course play an important part. He has 6,000 trees, and his largest orchard is 22 acres.

Ten almond trees in full bearing will be transplanted in the ground from San Joaquin County, Cal. P. B. Armstrong, who will furnish them, owns one of the largest almond orchards in the world. It consists of 1,015 acres.

The White Star steamers have been specially fitted up with refrigerating room upon the principle used by the California Fruit Transportation Company, and the first supply of fresh American fruits arrived in Liverpool in good condition.

Carefully examine the quince trees at least twice a year for borers, for they are a formidable enemy. In planting quinces have the trees set 10 or 12 feet apart, to avoid crowding, and use strong, vigorous trees. Keep them pruned in good shape, with low heads.

The *American Agriculturist* says we can have cherries in September and peaches at Christmas time by the present method of cold storage. In America a temperature of 34 degrees gives the best results, but in Australia 40 degrees is best in the warehouse, or during the two months' voyage to England.

When a Spaniard eats fruit by the roadside he always digs a hole with his foot and carefully places the seed or stone in it and covers it over with the soil. This is an admirable and provident custom, and the people are rewarded by the fruit, which grows abundantly all through the country and which all may gather and eat.

The Elberta peach originated with Mr. Rumph, of Marshallville, Ga., and the o iginal tree is 21 years old. It is a seedling of the Chinese cling, fertilized by Crawford's late, and the most beautiful peach grown. The Crosby is not a handsome fruit, but is desirable because of its hardiness. It is medium sized, yellow, and not very large.

Early Autumn is a good time to transplant trees. It is not necessary to wait until the leaves fall, but when you do plant, cut off the leaves. The condition of the earth and of the atmosphere is the same as that required for cuttings, and as a transplanted tree takes on the same condition as a cutting, early Fall is the best time for transplanting.

The greatest fault of growers is to pick fruit too green rather than too ripe. Peaches when gathered for shipment should be matured, but not soft. If the green tint at the blossom end has begun to turn white, then the peach is ready to be picked. Coloring is not always a guide, for some varieties begin to color up before they are in a condition to pick.

Most fruit men know that careful assorting when packing for market pays well, and yet the fruit markets are abused, and particularly the Chicago market, which ought to be the best in the world. The public is constantly being deceived by having baskets of peaches or barrels of apples thrust upon them which, below the top layer, are green and hard or wormy. Too much cannot be said against this practice.

If grapes are picked before the dew has dried off it deprives them of the bloom which makes them so attractive. Pains should be taken when packing them for shipment or market, particular care being given to the sorting and putting up of the fruit. The best bunches should be selected, and all the green and imperfect specimens removed. Do them up in neat packages, for much depends on their appearance.

The *Prairie Farmer* speaks of an apple known as the Western Greening. A rather poor specimen measured 10½ inches in circumference one way, and nine and a half inches the other. This Wisconsin seedling is said to have received the first prize at the Winter exhibition of the State Horticultural Society in 1883, over a large competition, as a seedling Winter apple. If its merits are so great, it seems strange that it should have remained so long in obscurity.

Various reports show that as a whole the fruit crop is small. In the western New York region the apple crop is about one-third the average; and of all the leading kinds the Baldwin is the heaviest, though last year it was very meager. Peaches are less than one-half, and even smaller in the Delaware region, while in Canada they are a complete failure. There are limited crops in certain regions, but hardly any elsewhere. Those who care for grapes may find comfort in the fact that they, at least, are plentiful.

Apples.

Last year the demand in Europe for American apples was very great, and we should profit by it. The value of thinning the fruit should not be forgotten when it is too abundant; then the specimens will be larger, though less in number. Fungicides and insecticides should be kept in use, and lastly, but no less important, the fruit should be carefully and neatly assorted and packed. There will probably not be so large an exportation of apples this year as last, but the most careful pickers and packers will be sure to have the advantage, and get the best prices.

Can Anyone Answer?

EDITOR AMERICAN FARMER: Will someone try budding the peach with the China berry and report?—W. B. SPEARING, Punta Gorda, Fla.

The Growth of Fruit Trees.

Tree roots travel; they reach out in all directions to gather food for the tree. A good tree planted well in good soil is bound to flourish and bear fruit. The tree, of course, depends on the roots for sustenance, but at the same time the condition of the roots depends on the health of the tree. It follows, then, that the tree should not be allowed to overbear, for by so doing too great a demand is made on the roots and it soon dies. A balance between the vigor of a tree and the labor we allow it to perform is secured by thinning the fruit. Here is where the farmer must use his judgment. He knows that if a tree has not too much to do it will perfect its fruit. When thinning, first pick off all the imperfect specimens, and all that are crowded. They should not touch, but be from three to six inches apart, according to the size of the fruit when grown. This is a tedious task, but it can be made easier by first shaking the tree vigorously, when most of the imperfect fruit will fall. When a tree is cared for in this way it will perfect its fruit, and be free from infection and insects. The fruit is more apt to be of the true flavor and color, and ripen in time to give the tree a chance to prepare for Winter by ripening its buds and branches.

Plum Culture.

There is a wide difference of opinion as to the best methods of planting the native plums in order to secure fertilization. Some growers plant in thick hedge-like rows, the trees standing from four to eight feet apart in the row, and every alternate row being a self-fertile variety. Another way is to set the trees from nine to 12 feet apart each way, with the impotent varieties in alternate rows. Thus, for example, the Forest Garden is made to fertilize both the Miner and Wild Goose. This "close planting," as it is called, makes the ground so cool and shady that it prevents the much-dreaded curculio from developing. The trees in this case have to be heavily trimmed, or they will grow into an unmanagable jungle. The majority of native plums are self-fertile, but some of the most important varieties are impotent. The Marianna has become a popular stock on which to graft all varieties, and is highly recommended as being superior to the peach for the Southern native plums.

Nut Orchards.

Why can we not have a greater number of nut orchards? The supply of nuts is not so great as the demand, and the market is by no means overstocked. English-walnut planting is a comparativey new industry in California, and the profits are immense. Our native nut trees are slow to bear, requiring usually from eight to 12 years, and but little effort has been made to improve them. Now the European chestnut has been cultivated, the number of varieties increased, and also the size of the nut, which shows what can be done. There is also a Japanese variety which comes to bearing in four or five years, and bears larger fruit than the European, but it is not very hardy. Could it not be grafted on our native stock?

California's Big Cherry Trees.

Much has been said about the great giant cherry trees of California by different agricultural papers. Some facts concerning them are given here as told by Mr. J. W. Clark, of Placer County, Cal., who made a special trip for the purpose of seeing them. The trees grow in Monterio, a fruit-growing district, situated at the lower end of the Long Valley, and about six miles southwest of Auburn.

The whirling waters of the American River in some remote age washed out the rock formation to a depth of 200 feet or more. This excavation is filled to half its depth by alluvial material from the sides of adjacent hills. It forms a deposit over 60 feet deep and about 12 acres in present area. This soil on which the cherry orchard grows has been bored to the depth of 60 feet without touching any kind of rock. In 1862 relatives of the present owner planted on four acres of this ground a number of Black Tartarian cherry trees, and since then other trees have been planted near them. There are now about 150 of these large trees, and they yield 400 pounds of fruit each, in alternate years. They are still making vigorous growth, and are trimmed and lime-washed every season. The hight of the largest tree is 63 feet, and most of the others vary between 40 and 50 feet. The Chinese, who are experienced in fruit gathering and growing, are employed to pick the fruit. They fasten ropes to the tops and from the strong limbs to place their ladders against, and any possible injury to the tree is thus avoided.

Vineyards Should be Cultivated.

An experiment has been made in Illinois as to the comparative advantages of culture over neglect. A vineyard was chosen for the test. Part was kept well cultivated, and the rest of it allowed to grow to weeds and grass, which was mowed two or three times during the season. The latter bore at the rate of 17 pounds to the vine, which was abundant, because the vines' growth had been retarded. The free-growing vines gave 11 pounds to the vine, but the growth was vigorous and healthy, and the vines were better for bearing next year. The bunches and fruit were much larger, and ripened at least 10 day's earlier, being worth twice as much in the market as the uncultivated grapes.

Orchards on Hillsides.

A writer from Meigs County, O., says that apple orchards are more profitable when grown on hillsides; and if planted in the valleys, on the alluvial soils of rivers the fruit will be inferior, decay more rapidly, and be difficult to sell except at a near market. Hill orchards on high elevations have a better chance of escaping the frosts in the Spring, for the sun can shine on them and even reach the ground under the trees, while those in the valley will be deeply shaded. Sunlight is good for apples, for those grown on the extremities of the limbs are always superior to those which grow near the body of the tree, shaded by the foliage.

Stable Talk.

It is a bad practice to breed from stock which is not fully matured.

It is best not to give a colt any solid food until it is three or four months old.

The profit in an animal depends altogether on the manner in which it is fed.

For horses which are not worked so hard cornmeal and bran in equal parts makes a good ration.

Cornmeal, ground oats, and wheat bran in equal parts makes an excellent ration for horses, milch cows, and calves.

Excellent results are obtained if cattle, which are being fattened, are fed pumpkins in conjunction with clover or clover hay.

There is no trouble in making good beef with corn, grass or good hay fed with it, all of which can be raised on the farm.

Some agricultural writers claim that the manure of the stock if handled properly will pay for the entire cost of care and labor.

If you can spare the horse let him have a few days' run in the pasture. If you can do this and want to add to his enjoyment take his shoes off.

Palo Alto will be preserved for exhibition purposes. The heart of the animal when taken out was weighed and balanced the scales at 10 pounds.

The easiest, cheapest, and, a great many believe, the best way to raise calves up to six months of age is to permit them to run in the pasture with the dam.

Examine your stock closely, and if there are any which you do not think will go through the Winter profitably, pick them out, fatten, and send to the butcher.

The following piece of advice, culled from some unknown quarter, gives a good hint to those who contemplate purchasing a horse: Always have him led down a steep or stony descent at the end of a halter, and with no whip near. Many horses when brought out of the stable are excited by the presence of strangers, and become still more so at sight of a whip. A slight lameness may therefore be momentarily overlooked by the horse himself, just as a man, under strong excitement, will sometimes forget a sore foot. Leading the horse down a slope will show any defect in his forequarters, and running him back will develop any weakness that may exist in his hind legs. Horse sharpers know these facts, so if the horse is in the least affected they generally avoid a hill when showing off to a probable purchaser.

Corn-Fodder.

A short time ago we had an article in this department from one of our subscribers urging the value of corn as fodder upon the farmers. He presented the case in a very clear manner, and it probably did some good. In a paper which Joshua Wheeler recently read before the Kansas Agricultural Convention he devoted some space to this subject.

On the modern farm there is nothing used with as poor economy as corn-fodder. If properly saved there is no better food for stock cattle, From 30 to 50 cents per acre is what is usually paid for cornfields after the corn is husked; indeed, the corn that is left by the husker is about all the value there is in the field. The dry husk and stalk have but little value as food. An acre of good corn-fodder (corn that will yield 50 or 60 bushels per acre), if secured at the proper time, is worth as much for feed as the hay from an acre of tame grass. The question comes as to the best method of securing it and the cost. We have not yet become converted to the use of the silo. There is no question that silage is good food, but the cost of building the silo and the machinery connected with it, the number of hands and teams necessary in filling the silo, make it out of the reach of the common farmer. The cutting and the shocking of the corn can be done with the usual help of the farm; some extra help may be necessary in the husking.

The handling of corn-fodder must be done in damp weather. As the weather in Kansas is often very dry in the months of October and November, it is important that all suitable weather for this purpose be improved. We think this method of securing and feeding corn-fodder is far better than turning into the cornfield. We consider it very poor economy to turn stock into a field of cornstalks, to say nothing of the danger of loss from impaction. If all the loss of stock resulting from turning into cornfields in the State of Kansas could be aggregated, we would be staggered at its proportions. We are satisfied that it is good economy to fix up good lots with good shelter, good feed-racks, and water always accessible. By this method we increase the amount of manure made, so important in keeping up the fertility of the farm.

Joshua Wheeler says that with a good grade steer 100 bushels of corn properly fed will increase his weight 400 pounds, and in addition make 200 pounds of pork from the waste.

What Can be Done for the Pigs.

EDITOR AMERICAN FARMER: The cold weather will soon be here, and before its advent the farmer will have a little spare time on his hands. He can spend this time profitably in doing odd jobs about the farm. When doing these odd jobs it will be well if he would give the pig pen some attention. If he could but remember that the greater attention they receive the larger will be his profits, he would not hesitate to do anything which would improve their condition.

I spoke some time ago about the construction of houses, and how disease was generally started. Probably your pen might be in the same condition as some of those which I have described. If it is, I cannot wonder that the profit in your pigs is small; and yet at the same time I am of the opinion that you think it a useless waste of time to pay more attention to the hogs. Take my advice and get rid of this idea as soon as possible. Don't labor under this impression. If you have this idea in your head, when you are making any improvements in the swine's quarters, you are apt to be very biased, and not do what you would were you free of the idea. Make some improvements, and let it go on for one year. Give the pigs some attention; see that they have proper food, and at the end of that period I will guarantee that the results will be exceedingly satisfactory.

It is no trouble to keep the pig pen clean. I doubt if some of the readers of this article ever clean their pens. This is one mistake. A filthy place is excellent for the breeding and multiplication of disease germs. And when a farrow of pigs is brought up in such a place do you not wonder now that you had the luck you did have? Fancy bringing a baby up in quarters as filthy as that. Do you think that one out of 10 would be healthy?

Then the pigs should have a place where they can sleep at night. Oh, you all have that, no doubt. But is the place warm and snug? The cold weather is rapidly approaching, and it is almost impossible for the hogs to go through the Winter with the same dilapidated quarters which served their purpose during the warm weather. A draft is, in a good many cases, fatal to a pig, and since they can be easily avoided there is no reason why the sides of the pen should have so many air holes. Board up all cracks, and repair the roof, if you have one; if not, you should see that the roof is properly covered so as to shed the rain and snow.

Give them proper food. That is one of the most important factors. I agree with those who say that the animals of to-day were made and brought up to the standard they now have solely by that great factor—food. Simply by feeding certain food, Bakewell raised the scrub sheep of England into a breed which sold for remarkable prices. So, in my opinion, have the quality of hogs been improved, and so will they continue to improve. Bakewell, when he began to make his improvements, had nothing but scrubs to commence on. But he selected the best of the scrubs, bred them and fed them scientifically.

And here I might say that a great many plain, ordinary farmers become bewildered when they see the word scientifically used. The science of the feeding is simply to feed those foods which enter into the elements that composes the body of the animal, so that the smallest possible amounts are wasted. For instance, there are some foods only about one-quarter of which can be utilized by the body of the animal; again, there are others in which three-fourths are put to some use. Common sense tells us that if we want to fatten an animal quickly it would be best to use those foods, three-fourths of which go into the body of the animal. Then, again, if we fed the food one-fourth of which could only be utilized, it would take considerably longer to fatten the animal than if the other food was used. This is the whole thing in a nutshell.

Select the best animals you have on hand. Breed them, and feed judiciously, and you will be gratified with the result. All of our breeds of to-day were raised from scrubs, and although you may not be successful in securing an animal which will rival those of three or four generations of breeding, yet he will be far above the ordinary stock which you have formerly kept.—E. J. C., Irwin, Ga.

Pen Notes.

A squealing pig gives no profit to its owner.

Do not crowd the pigs so that when they are fed the weak will be trodden upon by the strong.

If you want plenty of lard feed your pigs on corn; if you desire meat and growth feed other food.

It is stated that in a well-bred hog a gain of from 10 to 11 pounds can be made from a bushel of corn.

We find this bit of brief advice in an exchange: Start the hogs on milk, grow it on grass, and finish it on grain.

A good slop for young pigs is made by pouring skim or fresh milk and kitchen refuse over brown and white middlings.

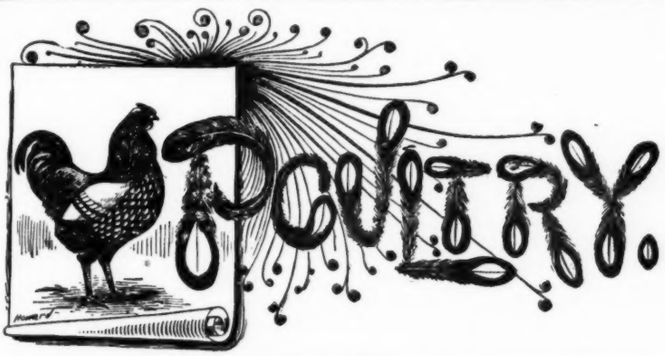
Hogs will secure greater benefits from pumpkins if bran, oats, shorts, oilmeal, and foods of a similar nature are fed at the same time.

It is well to remember that pork, from May until September, can be made at a less cost where the swine have had the run of a good clover field.

An agricultural writer aptly says that we are too prone to feed the foods to hogs that are most convenient, without giving due regard to the demands of nature.

Care should be exercised in feeding a pregnant sow. It is just as bad to feed too high as it is not to feed enough. Many litters have been ruined by feeding too high.

Farmers in New England think they cannot afford to turn their hogs into the clover field, but they might find it profitable to cut a little clover every day and carry to them, unless there is plenty of purslane or chickweed that can be fed to them. Good farmers do not mean to have weeds enough to feed the hogs upon, but weeds sometimes get a start in "growing weather," and even if these are but few the hogs will like them if they get them fresh dug twice a day.



Cacklings.

Send the turkeys to market in good condition.

Have your hens in condition to lay by the beginning of Fall.

Although the hens produce the eggs, the average of production is with the breeder.

Boiled oats in milk, fed three times a day, is said to be an excellent food for fattening geese.

It would be worth while to give the henhouse another coat of whitewash before cold weather sets in.

When fowls are to be fattened the assimilation of food will be easy and quick if the ration is cooked.

It seems hard to convince those who feed an exclusive corn diet that the material for eggs is not in the corn.

Do not feed the morning mash in a sloppy condition. No matter whether it is cooked, baked, or raw, a dry, crumbly mass is best.

The unwritten laws of feeding, if once discovered by the poultry raiser, would enable him to secure many eggs at a minimum cost.

Farmers, if they keep any full-blooded stock at all, should keep those which will pay them the best. It does not pay them to keep bantams or game chickens.

The rules which are observed in all branches of stock raising are extremely applicable to poultry raising. It is worse than folly to breed from puny stock and expect to get strong and healthy fowls.

The number of hens to be kept with a rooster, when eggs are desired for hatching purposes, varies according to the size of the breed. The large breeds, such as the Asiatics, Brahmas, and Plymouth Rocks, require from eight to 12; the Leghorns from 12 to 18.

What has been done by one man can be done by another. Here is a good illustration that there is money in poultry. Mr. James Rankin, the successful duck grower of Massachusetts, says: "Public opinion has been against the success of the poultry business when undertaken on a large scale. Yet I have increased my plant until I have grown nearly 10,000 birds each season, and am increasing it still. The past season has seen two new buildings added to the plant. At present I am busily engaged in turning $3,000 worth of corn, wheat, oats, bran, etc., into some $7,000 or $8,000 worth of poultry and eggs."

The Feather-Eating Habit.

We are continually hearing of complaints from poultry raisers asking a cure for the feather-eating habit. Fanny Field tells us that the hatchet is as good and also a safe and effective a remedy as has yet been devised. There are numerous so-called cures placed on the market, but as we have had no occasion to test their merits we cannot recommend or condemn them. If we had no other alternative, we think, however, that we should have recourse to the remedy suggested by Miss Field.

Like all other diseases—we certainly can be permitted to call feather eating a disease—there is a cause for this habit. When a fowl begins eating feathers then it is high time to begin to take some action. At this period, when the chickens are molting and when there are plenty of feathers lying around the poultry yard, it is well to keep a watch. See if you can discover any of the hens picking up a feathar here and there. If you do find any, immediate preventive steps had better be taken to check the spreading of the habit.

The hen is naturally averse to eating feathers, but when she once contracts the habit it is likely to remain with her until she dies. In our last issue we had a short article on molting, and in which we advocated feeding food rich in nitrogen to the hens which were shedding their feathers. It would be well if poultry raisers would follow what was advocated, especially those whose poultry is confined.

We experimented a little recently. Our object was to find out if the hens would learn to eat feathers if fed non-nitrogenous food. The object of feeding food rich in nitrogen is, as all are aware, to supply material for the new feathers which replace those which are shedded, since it has been determined that feathers are largely composed of nitrogenous material. It seems quite natural that a hen would eat these shedded feathers, if she was given a carbonaceous or fat-forming food. It was this that we desired to discover.

Our pens have not a blade of grass in them. We took 10 chickens and gave them a carbonaceous food, and to the remainder we gave plenty of food rich in nitrogen—the same as we recommended in our last issue. We will simply give a summary of our results. The chickens given nitrogen were in their new plumage before the other pen had gotten half way through molting. The chickens fed on the carbonaceous food did not get along very well. For some days after they had begun to shed they looked sickly, and after that period we noticed that they had begun to eat the feathers which were molted. While there were plenty of feathers scattered around the yard of the fowls fed on nitrogen, none could be found in the other pen.

This experiment would certainly seem to be convincing, but yet we are not entirely satisfied. It is our intention to go further next year, but as it is now we think that it is worth while to pay some attention to these results. The fowls on the farm are not likely to contract this habit when allowed to roam over the place, since they eat plenty of green food, which gives them nitrogen.

Green Food in Winter.

Probably the question has arisen in the minds of some poultry raisers, shall I build a silo. It is an undisputed fact that fowls should be supplied with green food during the Winter. The supply of green food is conducive to egg laying, and therefore it is well to be able to keep the fowls supplied with green food during the Winter months. But the very mention of the name silo to some bring before their eyes visions of barn-like structures in which to store the ensilage.

If a poultryman was compelled to build such a building for the silage then there would be some excuse for not keeping a supply of green matter for the fowls. But as it is, there is no need whatever for such a building, unless it is expected to have green food for all the animals and cattle on the farm.

A common barrel, either the size of a pickle or whisky cask, is plenty large enough for the supply of 30 hens during the period when there are no green things growing. All that is necessary to make such a silo is to get the barrel and a good top to fit over it. Place the barrel in the cellar, if you have one, if not, in a corner of the barn, and fill it with any green food, cabbage leaves, beet and radish tops, or anything of the like. When the barrel is full place the top on and then put heavy weights on it. When the matter is compressed put more greens in and keep up this operation until the contents of the barrel are packed as tightly as possible.

If you do not care to make one of these barrel silos, then a small plat of ground adjoining the poultry house can be fixed up, exactly as you would a hot-bed, and wheat, oats, or clover sown. This idea was described by Mrs. Julia Allyn in an article on this page in a recent issue.

Then there is another alternative if you do not care for either of these plans. A good many practical poultry raisers follow this plan. They get clover hay, give it a good steaming, and feed it to the poultry. This treatment is said to make the clover as good as when it is in its green state. Certainly there is no difficuly in preparing this, and the only drawback is that it is necessary to cut the hay in small lengths before it is subjected to the steaming process.

Some confusion may arise from the understanding of the word steaming. As generally practiced, the clover is put into a kettle, boiling hot water poured over it, and then covered tightly and allowed to remain so for some time. Some poultrymen, however, cook the clover in a kettle and mix it in a mash. Then there are numerous vegetables which can be fed. For instances, cabbage, turnips, pumpkins, onions, leeks, lettuce, carrots, apples, beets, etc. If you have an abundance of these on hand they can be profitably fed to the fowls.

Keeping an Account Book.

We would advise every practical poultry raiser to open an account book. Its benefits will be manifold. Dr. G. M. Mitchell, of Maine, says, speaking of poultry raisers: "I venture that not one in 100 can give any adequate idea of the cost of keeping." While his statement may seem to be very broad, yet, nevertheless, we concur in what he says. The necessity for an itemized account in the poultry business is not appreciated. Some fear the results it will reveal. No business man would fail to keep an itemized account of his business. If he is successful he wants to see how large his profits are; if he is unsuccessful he wants to find out how large his losses are. A business man who failed to keep such books would be regarded as being of unsound mind by his associates.

The practical poultry raiser should make no exception to this rule. He should open an account book, and be faithful with his entries. At the close of each day put down what you have sold and what you have bought. Figures never lie, so it is said, and the balancing of once month's entries in the account book may be productive of surprising results. You will then be able to determine exactly how you stand.

How can a person be successful in poultry raising if they do not keep a strict account of all their business transactions? They must do so, and so must everyone else who desires to achieve success.

Questions and Answers.

What is the cost of raising chickens per head? I desire to start in raising some poultry, and a friend informs me that there is not any profit in the business. From what I have read I think he is mistaken, and would like to know what you think.—E. M. C., East St. Louis, Ill.

We are of the opinion that your friend is mistaken in telling you what he did. He is right in one way. If you go into the business of raising poultry you need to be watching them constantly and take good care of them. If you are going to let the poultry take care of themselves, then there is truth in what your friend said. A bulletin was recently issued by the Experiment Station of New York, in which it is claimed that under ordinary circumstances chicks ought to be hatched, making a fair allowance for value of eggs and food for setting hens, at a cost of less than five cents a piece. The highest cost per pound gain during any week, while growing chicks to three and a quarter pounds average weight, was less than seven cents, and the general cost averaged much less than six cents.

I am contemplating purchasing some turkeys. What kind would you advise me to get?—A FARMER, Union Valley, N. Y.

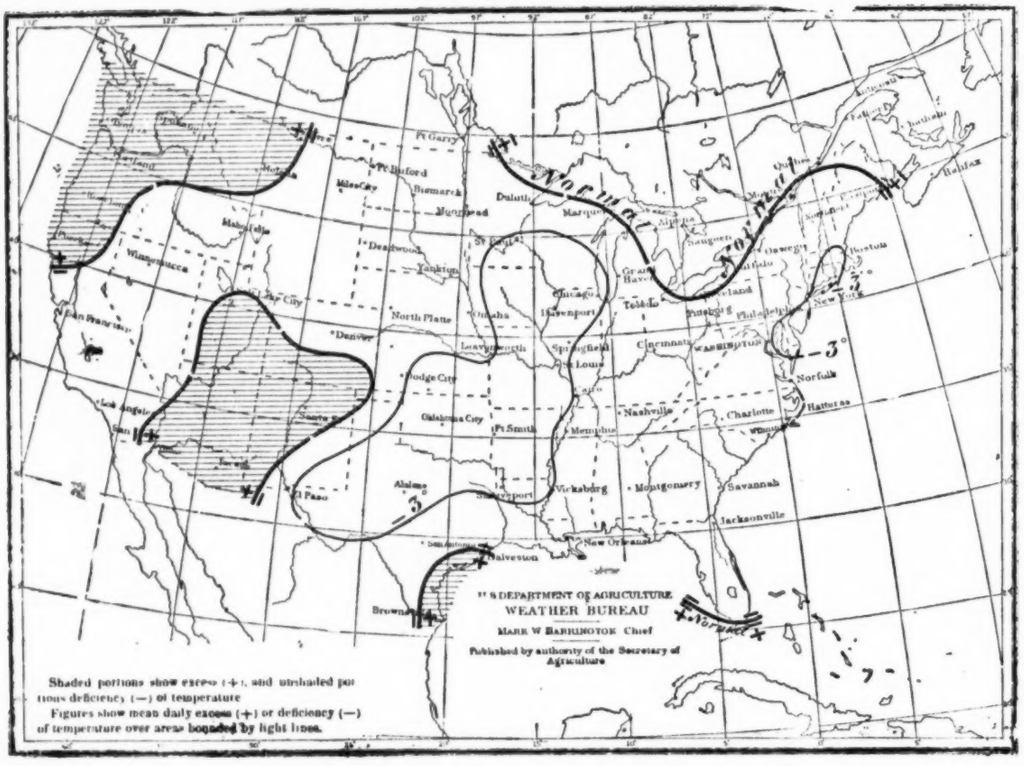
We think that the Mammoth Bronze turkeys would be the best for you to have.

Over $800,000,000 is said to be invested in the electrical industry in this country.

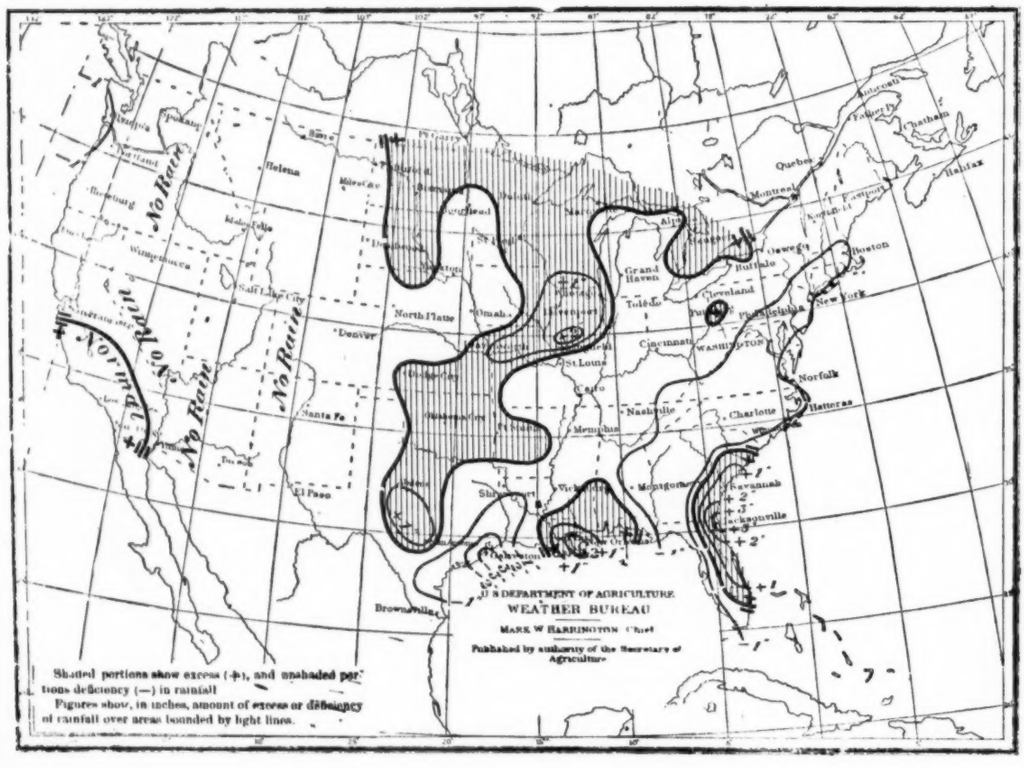
U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

Weather-Crop Bulletin for the Two Weeks Ending Sept. 12, 1892.

Departures from Normal Temperature for the Two Weeks Ending Sept. 12, 1892.


Normal
Frost Line
+3°
-3°
U.S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
MARK W. HARRINGTON, Chief
Published by authority of the Secretary of Agriculture
Shaded portions show excess (+), and unshaded portions deficiency (—) of temperature
Figures show mean daily excess (+) or deficiency (—) of temperature over areas bounded by light lines.

Rainfall Departures for the Two Weeks Ending Sept. 12, 1892.


No Rain
No Rain
No Rain
U.S. DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
MARK W. HARRINGTON, Chief
Published by authority of the Secretary of Agriculture
Shaded portions show excess (+), and unshaded portions deficiency (—) in rainfall
Figures show, in inches, amount of excess or deficiency of rainfall over areas bounded by light lines.

U. S. DEPARTMENT OF AGRICULTURE,
WEATHER BUREAU,
WASHINGTON, D. C., Sept. 13, 1892.

TEMPERATURE.

During the two weeks ending Sept. 12, 1892, the temperature was normal, or slightly below, in the lake region, northern New England, and in Florida. It was slightly warmer than usual on the Texas coast, in Arizona, and adjacent portions of Utah, Colorado, and New Mexico, in western Montana, and on the north Pacific coast, where the excess of temperature was about 2° per day. There was a general deficiency in temperature from the middle and south Atlantic coast westward to the Rocky Mountains, the greatest departures occurring over the region from the northern portions of Texas and Louisiana northward to Wisconsin and Minnesota, where the temperatures ranged from 3° to 5° per day below the average.

Frost occurred in the upper Mississippi, Missouri, and Ohio Valleys, New England, and in the northern portion of the middle Atlantic States, but the reports indicate no serious injury. Freezing temperatures prevailed in Wyoming and northern Montana on the 11th.

Early corn is now reported as safe from injury by frosts in the principal corn-producing States, and if late corn escapes injury during the next two weeks the crop will be safe.

PRECIPITATION.

The rainfall for the two weeks ending Sept. 12 was greater than usual along the east coast of South Carolina, Georgia, and eastern Florida, and over a stretch of country extending from Arkansas and central Texas northward to British America. There was also more than the average amount of rain in southeastern Louisiana, southern Mississippi, and southwestern Alabama. Over portions of Illinois, Iowa, Missouri, and Texas, and on the south Atlantic Coast from one to three inches more than the average amount of rain fell during the period above named. Along the Texas coast, over the northern portion of the cotton region east of the Mississippi, and thence northward there was a general deficiency in rainfall, and drouth of more or less severity has prevailed over this region, especially on the middle Atlantic Coast, where but little or no rain has fallen for several weeks. There has been an absence of rain on the Pacific Coast, except light showers during the second week in Washington.

Cotton picking, which began in the southern portion of the cotton region two weeks ago, is now general in the northern portion of the cotton region, and some shipments have been made. The cotton crop in South Carolina is reported as seriously injured, and in Louisiana there are complaints of rust and boll worms.

Severe drouth continues throughout Maryland, and rain is much needed in portions of Virginia, South Carolina, Kentucky, Arkansas, Michigan, and Kansas.

The girl who is always casting sheep's eyes is often anything but lamblike.

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Special courses will be given on control and eradication of contagious diseases, and on meat inspection.
Session of 1892-93 will open Oct. 18.
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THE MARKETS.

WOOL.

MINNEAPOLIS, MINN., Sept. 1.

Jas. McMillan & Co.'s circular says: The wool season is drawing to a close, although we are receiving a good many lots that were held back for a time. Not much change in the prices of wool is looked for until after the National election. Manufacturers have been and are using enormous quantities of wool, and it is hoped that they will not hold back buying on account of the election, because if they should do so with a great deal of wool in all markets for sale it would have a depressing effect on prices. The demand for fat sheep and lambs is still in excess of the supply in all the large markets. The high prices for mutton is what has made the sheep-growing business so profitable in recent years. In the Dakotas and other territories where there is any danger from scab, the sheep should be dipped in the Fall before cold weather, as well as in the Spring after shearing; and then there will be no danger but what they will go through the Winter in good shape, and also be free from ticks, lice, etc.

BOSTON, Sept. 13.

The demand for wool has decreased somewhat, and though the general report of lighter sales might be accounted for by the intervention of a holiday, at the same time dealers report that there have been fewer buyers about. For this reason, too, they state there is no means of forming any opinion as to prices different from that heretofore expressed, there not being in the market buyers enough to settle that matter decidedly either way. This may be so, as regards last week, but the general opinion as to the state of the market is compared with its general average for some weeks back rather than the preceding week, and so compared the tone is unquestionably weaker.

Dealers in some cases are very stiff, but with the majo ity the disposition is to bring about business if it does not call for too great a sacrifice. As the matter stands, buyers are not as a general thing willing to pay what dealers ask, and there is considerable parleying before business results, and from the reports given we should judge that in some cases buyers have succeeded in getting the wool on a lower plane of valuation.

Although running quite full, with plenty of orders, it seems quite evident that manufacturers have a considerable quantity of wool on hand and are prepared to wait a little while. In the meantime such buying as they do must be on a lower price list. As yet they have not succeeded in reducing prices very materially; in most instances the change is not quotable, yet is in their favor.

Ohio and Pennsylvania fleeces are still in good request and quite firmly held. The cost for XX clean remains in the vicinity of 62c, costing about 28c in the grease. No. 1 has moved less freely at 33c, and X is quoted to cost 59c clean.

There is a steady demand for Michigan wools that is easily satisfied, and the quotations most given are about 25c, to cost 58c clean. Some dealers are still holding the wool for higher figures, but in most cases dealers continue to be sellers at quotations.

Unwashed combing wools are in fair demand, both quarter blood and three-eighths. The former is quoted at 25a26c, and three-eights mostly at 26a27c. Delaines are moved much slower and are quoted lower, ohio at 30a31c, and Michigan at 28a29c.

Texas wools are quieter, and in some cases are weaker. We note sales of choice fancy 12 months' wool at 22c, to cost about 60c clean. The bulk of the business continues to be of six to eight months' wool, costing from 53a55c clean. We quote the market as follows: 49a51c clean for fine, and 45a47c for medium Fall wools. In Spring wools fine Northern, 12 months' growth, 57a60c, and for eight months' growth, 53a55c. Medium of year's growth is worth all the way from 50a54c, and 48a51c for six to eight months' growth.

More trade is noted in Oregon wools, but no changes are noted in values. We quote prices, clean, as follows: No. 1, 53a55c; No. 2, 50a53c; Valley No. 1, 48a51c, and No. 2, 43a45c.

California wools continue quiet, and are unchanged. We quote the market, clean, as follows: 56a58c for Northern free, 12 months; and 53a55c for eight months; 56a58c for Southern 12 months, and 50a53c for six and eight months. Fall wools are quoted at 45a50c for free, and 35a40c for defective.

Pulled wools are quieter, and some dealers have shaded prices of supers to effect sales. B's are in the most demand. Extras are quite steady at about 60c clean.

Territory wools have again been quite freely sold, and in many cases at a drop from previous rates. Quotations that follow continue unchanged, but much more of the wools have been sold at the lower range. The greater portion of the sales are of fine medium and fine at about 54c, with medium selling at about 50c and lower. We quote Montana fine, 58a60c; fine medium, 54a57c; medium, 52c; Wyoming and Utah fine, 55a57c; fine medium, 54a56c; medium, 48a52c.

Unwashed fleeces continue to have a very active demand, and sales of both fine and medium are noted. Unmerchantable also continues to be a favorite and is picked up quite as fast as it is brought out. Michigan fine is quoted at 18a19c, and Ohio is at 19a20c, with medium at 23a26c. Unmerchantable is quoted at 20a22c.

Australian wools are in good demand and values are quite firmly held. America will be but poorly represented at the sales that open next week, the selections being poor on wools suitable for America. Private advices from Australia report the probability of clip of same amount as last year. The Port Philip wools are in good condition, but from the Riverina districts is faulty and tender.

Carpet wools are very firm and in good request.

We quote the selling prices of the market for leading descriptions, as follows:

	Cents.
Ohio and Pennsylvania No. 1 fleece	32 a34
Ohio and Pennsylvania X	26 a27
Ohio and Pennsylvania XX	28 a29
Ohio and Pennsylvania XX and above	29 a30
Michigan X	25 a26
Michigan No. 1	32 a33
Combing, No. 1	35 a..
Combing, No. 2	33 a34
Kentucky and Ind. ¾-b'ood combing	26 a27
Kentucky and Ind. ¾-blood combing	27 a28
Missouri ¾-blood combing	25 a26
Missouri ¼-blood combing	26 a27
Delaine, Ohio fine	31 a..
Delaine, Michigan fine	28 a29
Montana fine	14 a17
Montana medium	19 a24
Wyoming fine	14 a17
Wyoming medium	18 a23
Kansas and Nebraska fine	13 a16
Kansas and Nebraska medium	16 a19
Georgia	25 a26
Texas Spring medium, 12 months	20 a23
Texas Spring fine, 12 months	18 a21
Texas Spring fine, six to eight months	17 a20
Texas Spring medium, six to eight months	21 a22
Texas Fall	14 a20
Kentucky ¾-blood clothing	24 a25
Kentucky ½-blood clothing	26 a27
Unwashed fine Ohio and Michigan	17 a20
Unmerchantable Ohio	20 a21
Unmerchantable Michigan	19 a20
Lambs super pulled	34 a40
Super pulled	30 a44
Extra pulled	26 a34
Canada pulled	28 a32
Western super	25 a30
California Spring	14 a24
California Fall	10 a16
Oregon east	15 a19
Oregon fancy	20 a22
Oregon fine valley	17 a21
Oregon medium valley	24 a25
Montevideo	27 a30
Australian and New Zealand	32 a41
Foreign carpet	12 a26

COTTON.

NEW ORLEANS, Sept. 13.

Cotton quiet; middling, 7c; low middling, 6¼c; good ordinary, 6c.

SAVANNAH, Sept. 13.

Cotton quiet; middling, 6¼c; low middling, 6¼c; good ordinary, 5¼c.

GALVESTON, Sept. 13.

Cotton steady; middling, 6 15-16c; low middling, 6 7-16c; good ordinary, 5 15-16c.

LIVERPOOL, Sept 12.

Futures closed quiet. American middling, low middling clause, September delivery, 3 61-64da3 62-64d; September and October delivery, 3 61-64da3 62-64d; October and November delivery, 3 62-64d, sellers; November and December delivery, 3 63-64da4d; December and January delivery, 4 1-64da4 2-64d; January and February delivery, 4 4-64d sellers; February and March delivery, 4 6-64d, buyers; March and April delivery, 4 8-64da4 9-64d; April and May delivery, 4 11-64d, value

NEW YORK, Sept. 14.

To-day's sales were:

Months.	Sales.	Highest.	Lowest.	Closing.
Sept	.....	....	....	7.00a7.02
Oct	19,200	7.13	7.07	7.06a7.07
Nov	9,500	7.25	7.18	7.18a7.19
Dec	14,100	7.36	7.30	7.30a7.31
Jan	18,300	7.48	7.41	7.41a7.42
Feb	2,700	7.58	7.52	7.52a7.53
March	3,000	7.68	7.64	7.62a7.63
April	700	7.77	7.77	7.72a7.73
May	2,700	7.85	7.85	7.82a7.83

GRAIN AND BREADSTUFFS.

CHICAGO, Sept. 13.

Quite a lively rebound was witnessed in grain prices to-day after the depression on the cholera scare. Wheat closed ½c higher than last night. Corn received a fresh impetus from another frost prediction, and, accompanied with yesterday's closing prices, is about 1c higher. Oats were strong and higher, influenced by the strength in corn.

Closing cash prices for grain were: No. 2 red wheat, 73½c; No. 2 corn, 48c; No. 2 oats, 34¼a34½c; No. 2 rye, 56½c, and No. 2 Barley, 65c. Futures closed as follows:

	Wheat.	Corn.	Oats.
September	73¾	48	34¼
October	74¼	48¼	34½
December	76¼	...	...
May	...	51½	37½

NEW YORK, Sept. 13.

Flour was quiet and the low grades were depressed, while even the higher descriptions were not very steady. Spring in barrels—Superfine, 1.80a2; No. 2, extra, $1.95a2.30; No. 1 extra, $2.40a3 10; clear, $3.10a3.50; straights, $4a4.30; patents, $4.25a4.70.

Wheat was slightly lower in the early trading, but recovered the loss and advanced ¼c to ½c. No. 2 red, 78½c in elevator, No. 4, 70c in elevator; No. 2, Milwaukee, 1½c under October delivered; ungraded red at 78ca82c, and No. 2 hard Kansas 83c. Corn declined ¼c to ½c on later deliveries; kiln dried 56c in elevator, ungraded mixed 55a57c, white, 58½c, sample yellow 58¼a59c, No. 2 mixed, 56½c in elevator. Oats declined ¼c early in the day, but rallied later and made a net advance of ¼c to ½c, but closed weaker. No. 2 mixed, 37¼a38c, in elevator, No. 3 mixed, 37¼c, No. 2 white, 39a40c, No. 3 white, 38a38½c, ungraded white, 39a45c, and do, mixed 37¼a39c. Rye was dull and unsettled. The nominal quotations were 60a64c for prime on track and afloat.

Rye Flour—Two hundred barrels sold, in lots, at steady prices, bulk, poor to choice, superfine at $3.60a3.85.

Cornmeal—Two hundred and fifty barrels Brandywine sold at $3.25. City coarse yellow cornmeal, in bags, quoted at $1.11a1.14; fine yellow, $1.30a1.40.

Hommy Chops—Quoted at 85c.

Feed—At firmer prices; quoted, 40 to 60 pounds, at 80c.

WHEAT.

	Opening.	Lowest.	Closing.
September	...	78¾	78¾
October	79¾	79 5-16	79¾
November	80¾	80¾	81¼
December	82¾	82 9-16	83¼
May	88¼	88¼	88½

CORN.

September	55¼	55¼	55¼
October	55	54¾	55
November	55¼	55¼	55¼
December	56¼	55¾	55¾
May	57¼	56¼	56¼

OATS.

September	37¼	37¼	37¼
October	38¼	38¼	38¼
November	39	39	39¼
December	39¼	39¼	40
May	...	41¼	41¼

HAY AND STRAW.

Hay is steady on light receipts and a moderate demand. New hay is steady, with light receipts. Straw is quiet and steady. Quotations: Timothy, No. 1, 85a90c; No. 2, 70a80c; shipping, 60a70c; inferior, 50a55c; clover mixed, 60a70c; new hay, No. 1, 80a85c; No. 2, 75c; straw, No. 1, 50a60c; No. 2, 40a45c; oat straw, 40c; new rye, 50a55c.

LIVE STOCK.

BUFFALO, Sept. 13.

Hogs—market opened active, strong, and higher; closed strong; all sold; heavy corn fed, $5.50a5.60; packers and medium, $5.40a5.50; Yorkers, good to best, corn fed, $5.25a5.40; do, light to fair, do, $5.10a5.20; grassers, common to good, $4.85a5.25; good heavy ends, $4.75a5.10; pigs, good to best, corn fed, $5a5.25; do, common skips to fair, $4a4 75; assorted roughs, $4.40a4.75; common roughs, $4.75a4.25; stags, $3.75a4.

Sheep and Lambs—Market opened weak and lower; closed very dull; choice to fancy wethers, $4.50a4.75; fair to good sheep, $3.90a4.40; culls and common do, $2a3.65; Canadas, $3.75a4.25; lambs, native, good to best, $5.40a5.75; culls to fair, $3.75a5.25; Canada, common to best, $5.75a6.

NEW YORK, Sept. 13.

Beeves—No trading in live cattle. Feeling weak. Dressed beef steady at 7a9c per pound for poorest to best native sides.

Latest private cable advices from London and Liverpool quote American steers firm at 10¼a12c per pound for the dressed weight, sinking the offal, and American refrigerated beef steady at scant 10¼c per pound. Shipments as reported yesterday.

Calves—The market ruled slow but steady for all sorts. Poor to prime veals sold at $6a8 per 100 pounds, a bunch of mixed calves at $5.50.

Sheep and Lambs—The market was firm and ¼c per pound higher for both sheep and lambs of good desirable quality, but there was no improvement in the common stuff and very little demand. Poor to strictly prime sheep sold at $3.80a5.30 per 100 pounds, common to choice lambs at $4.75a6.50. Dressed mutton steady at 7a9c per pound, dressed lambs firm at 9a10c.

Hogs—Market steady at $5.20a5.65 per 100 pounds.

CATTLE.

CHICAGO, Sept. 13.

Market steady. Good demand for export grades; best native, $5a5.50; choice, $4.50a4.80, others, $2 75a4.25; Westerns, $3a4; Texans, $2.25a3.15; stockers and feeders, $2a2.75; cows, $1a2.75.

Hogs—Market steady, closed weak; rough common, $4.80a5.15; packing and shipping, $5.25a5.40; prime heavy and butchers' weights, $5.45a5.55; light, $4.90a$5.45.

Sheep—Market lifeless; wethers, $4a5; mixed, $4a4.50; fat ewes, $3.75a4.75; fed Texans, $3.75a4.25; Texans, $3.25a4.15; Westerns, $3.75a4.35; lambs, $3.50a5.50.

POULTRY AND EGGS.

NEW YORK, Sept. 13.

Live Poultry—The receipts in yesterday were only some local lots that came in by express. Fowls showed a marked improvement owing to the scarcity of stock, and dealers at close were entirely out. Some small lots were sold at 14c for extra prime lots, but the general wholesale price was 13½c, and receivers soon disposed of stock at this quotation. Chickens were a trifle firmer. Dealers had a considerable quantity on hand, but owing to the scarcity of other goods buyers turned their attention to chickens, and market closed in good shape. Old roosters and turkeys firm, and any lots arriving find a ready sale. Pigeons steady. Quoted: Spring chickens, 1oc@1, per pound, 13a14c; do Western, 12¼a13c; do, fowls, Jersey, State and Pennsylvania per pound, 13c; Western, 13½; old roosters, 8c; turkeys, mixed, 12a13c; ducks, Western, per pair, 60a80c; geese, Western, $1.25a1.50.

Dressed Poultry—Arrivals were heavy yesterday, but, arriving on a comparatively bare market, did not influence prices to any extent. Demand was good, and at close stock was fairly well cleared up. Choice marks of fowls were firm and dealers easily disposed of stock on hand. A few very choice lots of dry picked fowls sold at 13½c, but these were exceptional. The bulk of the business reported was at 13c, and buyers obtained fancy marks at this figure. Scalded fowls sold generally at 12½c. Scalded chickens were offered at 13c. The receipts of dry picked Western chickens still show irregularity in quality and condition, and dealers have difficulty to dispose of these even at concessions. Following quotations rule: Turkeys, mixed weights, fair to prime, 18c; chickens, Philadelphia, per pound, 18a19c; fair quality, per pound, 15a16c; Western, dry picked, per pound, 14c; scalded, choice, per pound, 13c; fowls, Western, dry picked, per pound, 13c; scalded, prime, per pound, 12½c; Spring ducks, Long Island, fancy, per pound, 17c; Eastern, do, 17c; Western, 8a13c; geese, young, Eastern, 18c; squabs, white, large, per dozen, $2.50a2.75.

Eggs—The market yesterday presented no new features. Strictly fresh stock is scarce and the demand fair. On 'Change 100 cases Illinois sold at 21½c, and that figure represents the general trading price of stock suitable for the best trade. Ice house stock quiet. Quotations were as follows: State and Pennsylvania, 22c; northern Ohio, Indiana, Michigan, northern Iowa and Wisconsin, 21½c; fresh gathered, prime, 21a21½c; Western, inferior, per case, $3.50a4; Western ice house firsts, 18a19c.

BUTTER AND CHEESE.

Butter—The demand yesterday, while not active, showed improvement over Wednesday and Thursday, and prices were firmer. Fancy extra Western stock sold generally at 25c, and this figure represents the market. State creamery pails quiet at 24½c. State dairy firm at 22a23c. Choice marks of imitation creamery steady at 20c. Following quotations rule: State and Pennsylvania creamery, extra tubs, 24½a25c; firsts, 22a2?c; Western creamery, extras, 24½a25c; firsts, 21½a23c; State dairy, half tubs and pails, 22 23c; firsts, 20a21c; Welsh tubs, 20a21c; Western imitation creamery, 19a20c; Elgin creamery, 25c. Liverpool cables butter steady at 90a95s.

Cheese—The docks were well cleared up early yesterday and prices were a trifle firmer. Fancy colored sold at 9½c and a few sales were made at 9¼a9½c, but the prices were extreme and too exceptional to find place in quotations. Fancy white also sold at 9½c. Part skims are steady with stocks well cleared up. Quoted: State factory, full cream, fancy colored, 9½c; white, 9¼a9½c; full cream, choice, 9a9¼c; good to prime, 8¼a8½c; State factory, part skims, 6½c; good to prime, 4¼a5½c; State factory, full skims, 1a2c. Liverpool cable quotes market dull at 45a46s.

FRUITS AND VEGETABLES.

CHICAGO, Sept. 13.

The market on Irish potatoes is about steady, but the supply of sweets is excessive, and the market is easier: Natives and Bristols in barrels, $2; Jerseys, $1.75; Houlton hebrons in bulk, 65a68c; New Hampshire rose and hebrons, 63a65c; New York and Vermont white stars and burbanks, 63a65c; Jersey double head sweets, $2.50a 2.75; Jersey bulk, $2.25; Virginia, $2.25. Early Ohios, 50a60c per bushel; Wisconsin rose and hebrons, 60a63c per bushel.

Vegetables—Cucumbers, 30a40c per bushel; eggplant, 50ca$1 per dozen; cabbages, $1.75a2 per crate; turnips, 50c per bushel box; onions, $2a2.25 per barrel; string beans, green, 1 bushel boxes, 75ca$1, and 75a10c for wax; tomatoes, bushel baskets, $1.50a1.75; sweet corn, 15a18c per dozen.

Berries—Blackberries, cases 16 quarts, 75ca $1.75; blueberries, $1.50a2; cranberries, Cape Cod, $7a10 per barrel.

Beans—Hand-picked, $1.85 per bushel; machine-cleaned, $1.50a1.75; medium, $1.25a1.75; Lima beans, $3.50a3.75.

Broom corn—Green hurl, 6¼a7c; red or yellow tipped, 5¼a6c; dwarf, 5a7c; choice green, 6a6½c; self-working green, 5½a6c; red or yellow tipped, 4¼a5½c; inside and covers, 4a5½c; mixed, 4¼a5c; cooked, 2a3½c.

Green Fruits—Bananas, $1a2 per bunch; grapes, 8 to 10 pound baskets, 25a40c; lemons, $6 a7.50 per box apples, barrels, $1a3; peaches, 4 bushel, 25ca$1; crates, 50a85c; plums, Damsons, 16 quart cases, $1.25a1 50; Damsons, 4 bushel baskets, $1.25; other varieties, 4 bushel baskets, $1a1.50; pears, Bartletts kegs, $1a1.75; other varieties, $1a1.75.

California Fruits—Bartlett pears, choice, $1.45 a2.50 per box; peaches, $1.25a1.60 per 20 pound box: plums, 90ca$1.60 per 20 pound box; grapes, 85ca$1 per 20 pound crate for Muscat, and $1.10a 1.15 for Tokay.

Melons—Nutmegs, 20a40c per crate; watermelons, $65a80 per car.

Apples—Receipts were quite heavy and continue to be of very poor quality, and for these there was no demand and values were uncertain. Fancy stock about steady, but have to be perfect to realize top quotations. Quotations were: Alexander, good to fancy, per barrel, $2.50a2.75; Duchess of Oldenburg, good to fancy, $2.25a2.75; Gravenstein, per barrel, $2.25a2.50; Maiden Blush, per barrel, $2a2.25; Holland pippin, choice, per barrel, $1.50a1.75; Codling, prime, per barrel, $1.75a1.75; near by, sweet, prime, per barrel, $1.50a1.75; do, common quality, per barrel, 50ca$1.

Peaches—Demand was better yesterday, especially fancy fruit. Any lots offered that were choice realized good prices. Lower grades quiet. Quoted: Jersey, fancy selection, large, yellow, per basket, $1.75a2.50; Jersey, fancy lines, per basket, $1.50; choice lines, per basket, $1.12a1.37; common to fair, 70c:$1.

Pears—Market was firm and unchanged. The following were quotations: Bartlett, prime, per barrel, $3a3.75; Bartlett, up river prime, per barrel, $3a3.50; Bartlett, up river prime, per keg, $1.50a2: Seckel, choice, per barrel, $3.50.

SEEDS.

CHICAGO, Sept. 13.

Timothy Seed—Was 3a4c higher. Good lots sold at $1.60a1.62, and choice at $1.65. Fair lots at $1.57a1.58. Contract quotable at $1.66.

Flaxseed—Easy. No. 1 sold at $1.06a1.07; rejected at $1.05, and no grade at 98ca$1.01.

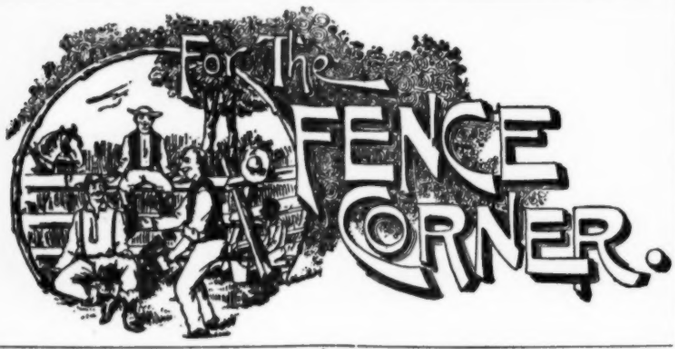
Clover seed—Steady. Prime quotable at $5,70.

HOPS.

Nothing new transpired in this line to-day, with the feeling about steady, and trading still confined to small lots. State, 1892, choice, 24c; medium, 23c; 1891, choice, 23c; medium, 22a22½c; common to good, 18a21c; old, 6a8c; Pacific Coast, 1891, choice, nominal, 23c; common to prime, 17a20c.

STORIES THE SETTLERS TELL

Of adventures in crossing the plains or in early days in the new State of Washington. Printed in the Tacoma Weekly Ledger, $1 per year; with the AMERICAN FARMER, $1.30 per year; to any present subscriber of the AMERICAN FARMER, 75 cents per year. 1461.



A Scholar With Ink-linations.

Teacher—Why do you make a pen-wiper of your mouth? What will you do when your whole system is poisoned with ink?

Smart Scholar—Well, teacher, when I feel thoroughly ink-lined I will swallow some blotting-paper.

Another "Light that Failed."

Progress in Agriculture.

Mr. Cityman—Why do you plant beans between the hills of corn?

Rural—Oh, that's a new way we have of raising succotash.

A Natural Conclusion.

Teacher—Now, try and remember that boys and girls are children, and their parents adults.

Scholar—Then, please, teacher, our grandparents must be adulterers.

A Literary Youth.

Nesbitt—I understand that your son at Harvard is quite a literary character.

Planter—Oh, yes, he commenced writing for money before he had been there three weeks.

He is Out and About.

You find him now where'er you go
Vociferously blowing,
The loud-voiced man who claims to know
How the election's going.

He Knew When He Was Through.

A farmer in Greene County, Pa., hired as his assistant during a busy season a recent importation from the Emerald Isle.

The young man was engaged one evening and at the breakfast table next morning his employer said:

"Well, Pat, have you had enough breakfast?"

"Oi have, sorr," replied Pat.

"Then now pitch in and eat your dinner," said the farmer, "for we are going to work to-day at the far end of the farm, and we won't have time to come to the house to eat dinner."

Pat resumed his eating, and when he stopped his employer asked:

"Have you had enough dinner?"

"Yis, sorr."

"Well, we must put in a good, long day to-day. So you had better eat your supper, too, before we start."

Pat went to work again at the eatables, and finally laid down his knife and fork.

"Had enough supper?" asked the farmer.

"Yis."

"Then now we will go to work."

"Worruk, is it?" asked Pat, with a well-feigned surprise.

"Of course," replied his employer.

"O, no," replied Pat, with a shake of his head. "Where I kim from we never worruk after supper, sorr."

Both in the Same Boat.

Boy—There's a lady outside wants to see you.

Lawyer Swelter—Whew! Ask her to wait while I put on my coat.

Boy—Don't bother about that, sir; she ain't no more dressed up than you are.

Where He Would Like It.

Job Lots—Money is close.

Hardup—I wish it was close enough for me to get hold of some of it.

Misunderstood.

A minister, with a rather florid complexion, had gone into the shop of a barber (one of his parishioners) to be shaved.

The barber was addicted to habits of intemperance, so that on this occasion his hand was very unsteady at his work.

In shaving the minister he inflicted a cut sufficiently deep to cover the lower part of the face with blood.

The minister turned to the barber and said, in a tone of solemn severity:

"You see, Thomas, what comes of taking too much drink."

"Yes, sir," replied Thomas; "it does make the skin very tender."

Barred Out.

Ugh—they've nailed my house up.

For another time in my life have I slept under a roof.—*Judge.*

An Ardent Flame.

Mabel—And do you still love me?

Jack—Certainly, certainly; I've married you, and it is my duty to.

He Knew the Result.

The following anecdote interested a crowd of board of trade brokers during a lull in the trading recently: Two rival Jewish clothing dealers on Clark street were said to be having a spirited competition in the way of securing custom. Things were not going as successful with Abrahams as with Goldstein, and one day to enliven things and show the world he was a very busy man Abrahams picked up a book and began walking up and down the sidewalk, meanwhile intently studying its pages.

"Vell, how's beesness?" asked Goldstein, whose curiosity had been aroused by this action.

"Oh, beesness is rushing. My customers crowd the store so much dot I haf to come oudt on the sidevalk to make up my accoundts."

"Yaas, ish dat so? I don't tink your accoundts drouble you so much?"

"No? Vell, mebbe they drouble me as much as yours."

"Now, Abrahams, you dond't mean it. If you know so much aboud accoundts, suppose you say how many two times two is?"

"Go vay, Goldstein! Of course I know how many two times two is."

"Vell, if you know how many it is say so."

"Goldstein, you do not know vhat you are talking aboud. Two times two is six."

"What did I tell you, Abrahams. You are wrong. Two times two is four."

"Goldstein, dond't make a fool of yourself. Of course, two times two is four, but I knew you would want to Jew me down at least two, so I said six."

Keeping up His Record.

"And where's old Bill Jonson?"

"He's here."

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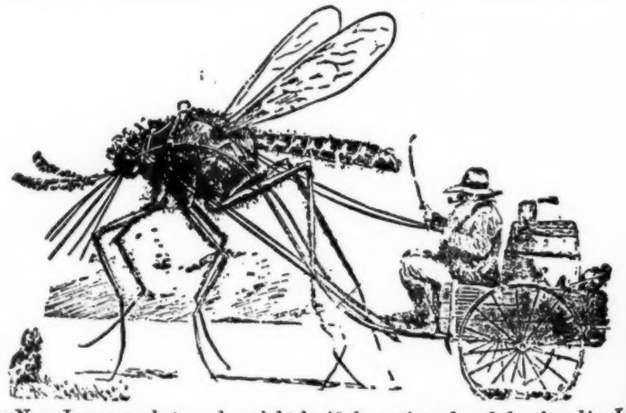

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- B. Average price of hogs, compared with the total production of hog products per capita, and the price of corn.
- C. Production of corn per capita, and the average price per bushel on farms, December 1.

Report of the Entomologist:
- Plate I. New species of icerya.
- II. The Lcefeld fumigator.
- III. Ceratitis capitata and Nephelodes violans.
- IV. Parasites of Nephelodes and Hæmatobia.
- V. Rose chafer and green-striped maple worm.
- VI. State Capitol at Lincoln, Neb., showing trees defoliated by the green-striped maple worm.
- VII. Black scale and Lucilia cæsar.

Report of the Chief of the Silk Section:
- Plate I. Various races of cocoons.
- II. Various races of cocoons.
- III. Various races of cocoons.
- IV. Pruning of mulberry trees, half-standard trees.
- V. Half-standard mulberry tree.
- VI. Pruning of mulberry trees, dwarf.

Report of the Statistician:
- Map I. Corn (maize). Values and yields per acre.
- II. Wheat. Values and yields per acre.
- III. Cotton. Values and yields per acre.

Report of the Microscopist:
- Plate I. Eight edible mushrooms common to the United States. Second series.
- II. Twelve poisonous mushrooms.
- III. Mushroom beds in cellar.
- IV. Mushroom beds in market gardens.
- V. Mushroom house.
- VI. Microscopic researches in food fats.
- VII. Nitrate of silver test of food and medicinal oils.
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- IX. Nitrate of silver test of food and medicinal oils.
- X. Nitrate of silver test of food and medicinal oils.
- XI. Species of mushrooms.

Report of the Botanist:
- Plate I. Ambrosia trifida.
- II. Hieracium aurantiacum.
- III. Linaria vulgaris.
- IV. Cuscuta trifolii.
- V. Plantago lanceolata.
- VI. Cenchrus tribuloides.
- VII. Pennisetum typhoideum.
- VIII. Eragrostis abyssinica.

Report of the Chief of the Division of Vegetable Pathology:
- Plate I. Hollyhock anthracnose.
- II. Anthracnose of cotton.
- III. Ripe rot of grapes and apples.
- IV. Treatment of pear leaf blight (Bordeaux mixture).
- V. Treatment of pear leaf blight (ammoniacal solution, copper carbonate).

Report of the Pomologist:
- Plate I. Wild and cultivated pecans.
- II. Pecan tree, in orchard at Ocean Springs, Miss.
- III. Switzer apple.
- IV. Banquet Strawberry.
- V. Brilliant grape.
- VI. Pineapple field at Lake Worth, Fla.
- VII. Zengi.
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